NATIONAL HEALTH SERVICE CORPS EDUCATIONAL PROGRAM FOR CLINICAL AND COMMUNITY ISSUES IN PRIMARY CARE

AGING MODULE

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Produced under contract. no. 240–91–0022

October 1, 1994

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Produced under contract. no. 240-94-0040

June 30, 1999

for

U.S. Department of Health and Human Services
Public Health Service
Health Resources and Services Administration
Bureau of Primary Health Care
National Health Service Corps

by

American Medical Student Association/Foundation
1902 Association Drive
Reston, Virginia 20191-1502

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SUBTOPIC 1

FUNCTIONAL ASSESSMENT OF THE ELDERLY

TIMELINE (60 minutes)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
10 min	Overview
25 min	Review of Case/Questions
10 min	Suggested Activity
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Physicians in training and in practice, nurse practitioners, nurse practitioner trainees, physician assistants and physician assistant trainees.

At the end of this discussion, participants should be able to:

1. Describe important characteristics to consider in choosing instruments to measure functional status, including activities of daily living (ADL) and instrumental activities of daily living (IADL).

2. Understand the importance of performing a functional assessment as part of the workup of an older patient.

3. Distinguish between report measures and performance measures of functional status.

4. Understand the relationship of functional impairment to falls.

5. Understand the significance of functional assessment in planning care for an elderly patient.

SECTION 2 OVERVIEW

People who reach the age of 65 can now expect to live into their 80s and perhaps into their 90s and older. Not all of these years will necessarily be active and independent. Among the elderly, improving functional independence is important in promoting health.

Chronological age is not synonymous with physiological age because organs can age at different rates. Nor is chronological age necessarily associated with poor health or disability. Studies at the National Institute of Aging show that with proper exercise and diet, the heart of a 70–year–old person can be as strong as that of a sedentary 30–year–old.

One measure of health that considers quality and quantity of life is years of healthy life—the number of years that an older person can expect to be active. Another quality-of-life index is functional capacity—the ability to perform activities required and usual in everyday living. Although most elderly people are relatively independent, many develop multiple chronic illnesses and disabilities that require management.

While people aged 65 and older have, on the average, 16.4 years of actual life remaining, they have only about 12 years of healthy life remaining because prevalence rates of most chronic conditions rise with age. Nonfatal, chronic conditions often cause prolonged disability in roles and activities. Although chronic diseases do not lend themselves to a "cure," their disabling impact may be reduced to enhance or maintain elders' functional independence.

Assessing Functional Independence

Key to planning ways to maintain independence is an assessment of functional status—often a better indication of the patient's capacity for independent living than chronological age and diagnoses alone. Measures of functional status focus on two domains of activity: personal care (called activities of daily living) and household management (called instrumental activities of daily living).

Activities of daily living (ADL) include bathing, toileting, feeding, dressing, ambulating, continence, and transferring. Instrumental activities of daily living (IADL) include management of finances, preparation of food, housekeeping, shopping, ability to use a telephone and ability to arrange transportation (see Handouts/Overheads 1 and 2 on ADL and IADL). Inability to perform ADL and IADL independently reduces an elderly person's autonomy and quality of life. It also increases dependency on others, often adding a burden on family members.

Functional status may be measured in two main ways:

- By asking the patient or someone else how well she or he can perform given activities
- By having the patient perform an activity and scoring it

The former technique is usually called a "reported measure," the latter a "performance-based measure." Many instruments have been developed to measure physical function; they vary

primarily in level of detail. Standardized, quantifiable, report or performance instruments should be used to assess ADL and IADL. The choice of standardized instruments:

- Increases the likelihood that the assessment will be comprehensive
- Facilitates comparisons of a patient over time
- Improves communication among care-providers by using a common yardstick

The instrument selected should be reliable (give the same result when measurement is repeated in the absence of real change), and valid (reflecting the characteristic that is being measured), sensitive, and specific. The length and complexity of the measurement process should be acceptable both to the staff and to frail elderly patients. The attributes measured should be clinically important and amenable to intervention.

Two common instruments used in the clinical setting to determine functional status include the Katz ADL and the Barthel Index (see Handouts/Overheads 1 and 3). Because these instruments were designed primarily for institutionalized, disabled patients, they may lack sensitivity to the lesser degrees of impairment found among ambulatory, elderly people living in the community.

For ambulatory, community-dwelling older people, assessment of IADLs, which require a higher level of function, may be more useful in identifying impairment earlier. However, IADLs tend to be biased toward activities traditionally performed by women, such as shopping, meal preparation, and housekeeping. Many men who are now old never learned these skills. Conversely, in families where women did not handle finances or arrange transportation, such activities are biased toward men who are now old.

Uses of Functional Assessment

Evaluation of ADL and IADL has many uses. Knowledge of a patient's capacity to perform ADL and IADL may be helpful in diagnosing numerous disease states, ranging from arthritis to dementia, and in estimating patient risk of falls and of possible hip fracture. The incidence of falls among elders living in the community increases from 25 percent at age 70 to 35 percent after age 75, and half of those who fall do so repeatedly.

Although falls occur for many reasons, ADL problems in ambulation and transferring add significantly to the likelihood of falling. Fear of falling may inhibit a frail person's walking. The resulting immobility can reduce muscle strength and increase the danger of falling. Injury is the sixth leading cause of death among seniors; the majority of these fatal injuries are due to falls.

Functional assessment can be useful in measuring not only a patient's level of functioning at a given point, but also in prescribing interventions. Interventions buffer the links between pathology and impairment, impairment and limitation, and so forth.

Functional assessment is also useful to monitor the effectiveness of a treatment, follow the progress of a disease, and even predict outcome. Disability due to chronic conditions is a variable process, sometimes improving, sometimes declining. A one-time assessment provides a snapshot of the patient but not a picture of the fluctuations, which may require periodic assessment to

monitor changes in functional status. Assessment should also be performed at critical transition points, such as a decline in health or function, a change in living situation, and a period of rehabilitation.

Although important for survival and independent living, ADL and IADL are just two aspects of human activity. A variety of other activities are part of optimal functioning. Ability to carry out social activities, hobbies and leisure activities, paid or unpaid work, socioeconomic status, and social supports are all important areas of life about which the health care provider should seek information when undertaking a functional assessment.

SECTION 3 CASE STUDY/DISCUSSION QUESTIONS

Ms. Taylor, an obese, 81–year–old woman with glasses and a hearing aid in the right ear, is seen in the practice just after she fell while hanging her bathroom curtains. She complains of pain, but her main fear is that she might fall again and not be able to get up.

Her current medical problems are angina, diabetes mellitus, osteoarthritis of both hands and knees, osteoporosis, and a hearing deficit. Current medications include insulin daily, aspirin as needed for arthritic pain, and nitroglycerin for chest pain.

A physical examination reveals tenderness and bruising of the left hip, lower back, elbows, and knees. Range of motion and strength in her arms is good, hand flexion weak. Heberden's nodes are present in both hands. Flexion and extension of both knees is fair. Blood pressure is within the normal range. Neurological examination is normal. An X-ray of the hip shows no fracture. On a mental status exam, she scores 27 out of a possible 30 points, indicating normal cognitive functioning. A vision test indicates that she has 20/30 vision with corrective glasses.

A self-report functional assessment is performed. She reports that before her fall, she sometimes used a cane when walking outside and sometimes had problems dressing because she finds buttons hard to manage. Her daughter-in-law helps with shopping and transportation. Ms. Taylor does "most" of her own housework and cooking, although she finds it increasingly difficult. She uses the telephone, manages her finances, and takes her medication as needed.

An assessment of her areas of social and socioeconomic functioning indicates that she lives alone in elderly housing and has a son and daughter-in-law nearby. She receives Social Security, Medicare, and supplemental health insurance. Formerly a sales clerk in a large department store, she retired 16 years ago. She attends church regularly, goes to a bingo game at the senior center twice a week, and enjoys raising African violets, and reading the daily newspaper.

Since she fell, however, Ms. Taylor wonders if her days are numbered and says she prefers dying to being dependent on others: "I can't stand the thought that I'll fall again, break a hip, and just lie there until somebody comes to take me away to a home."

1. What is Ms. Taylor's prognosis for independent living in her own home?

2. What supportive services would you recommend for Ms. Taylor? In what setting?

3. Would you want to discuss advance directives or a living will with Ms. Taylor? Why or why not?

4. What information from a social and financial assessment would assist in understanding her level of functioning?

SECTION 4 SUGGESTED ANSWERS

1. *What is Ms. Taylor's prognosis for independent living in her own home?*

   Osteoarthritis is the major disabling cause of disability among elderly women. Diseases of the heart are an additional major cause. Ms. Taylor's arthritis has impaired her physical functioning. Her functional status assessment indicates that she uses a cane when walking outside and she has difficulty dressing. She also is finding it more difficult to cook and do housework.

   Although Ms. Taylor has several chronic conditions that contribute to her disability, she was functioning independently in her own home until her fall. While her osteoporosis increases the likelihood of a fracture if she falls again, she does not want to live in a more restrictive setting. In view of her normal mental status and ability to cope with her environment in most situations, her prognosis to remain in her home is excellent. She may, however, require supportive services.

2. *What supportive services would you recommend for Ms. Taylor? In what setting?*

   When at all possible, a home visit should be paid to Ms. Taylor to ascertain how she performs in her own home. Medicare will now pay for home visits by a physician, physician's assistant, or nurse practitioner. Often, relatively simple home modifications may increase an older person's capacity to be independent. A major goal for clinicians is to amplify functional capacity both to optimize elders' capacity for independence and relieve caregiver stress. In-home geriatric assessment provides tools for this goal because an in-home assessment may not only decrease or prevent disabilities but lessen the likelihood of subsequent nursing home placement. The right to personal autonomy is of particular concern to the elderly as functioning declines. Services should be designed to enable Ms. Taylor to remain independent in her own home as long as possible. However, difficulties she noted should be addressed.

   Ms. Taylor mentioned that cooking and housekeeping are becoming difficult. To assist with cleaning and such tasks as hanging curtains, but not take over entirely, a homemaker twice a week for a few hours would be helpful.

   Ms. Taylor might also find meals-on-wheels a good alternative to cooking her own food. Attending a nutrition site daily at her local senior center might also be a viable alternative. She might find useful some assistive devices, such as special utensils designed for persons with arthritis, and large dials to replace standard stove controls.

   Given her arthritis and obesity, standing at the stove or kitchen counter may be a problem addressed by purchase of a large but stable kitchen stool. Her difficulty in managing buttons when dressing may be alleviated by velcro closings or larger buttons.

To alleviate her fear of falling and being unable to call for help, an emergency alarm response system might be installed. If possible, arrange for an environmental assessment of Ms. Taylor's home to remove hazards that might cause her to fall, such as scatter rugs, exposed extension cords, or loose tiles.

A physical therapy evaluation would be useful for gait evaluation and recommendations regarding an assistive device, such as her cane. It would also help determine whether other assistive devices might be useful to her in instrumental activities of daily living.

Ms. Taylor should be encouraged to get as much exercise as she can. If her fear of falling lessens her mobility, she will lose strength and increase her likelihood of falling. You might also consider whether Ms. Taylor could benefit from a structured exercise program to increase muscle strength and flexibility, decrease body fat, and retard bone loss. Well-designed, individualized exercise programs acceptable to the patient will optimize compliance. If such a program is available, you should perform a careful evaluation of Ms. Taylor for any underlying problems that might make such a program inadvisable for her.

Although research indicates that patients who have coronary heart disease, degenerative bone and joint disease and metabolic disorders can undertake a program of exercise, their conditions should first be stabilized. Because physical training can interact with medications, all drugs Ms. Taylor is taking should be reviewed and altered as necessary at the beginning of the exercise program.

Finally, when elderly patients undertake an exercise program, careful supervision and monitoring is required. Merely providing an exercise prescription without any support or reinforcement is likely to fail.

3. *Would you want to discuss advance directives or a living will with Ms. Taylor? Why or why not?*

Health care providers are often reluctant to initiate a discussion of advance directives, living will, or health care proxy to a relatively healthy patient and his or her family, fearing that it may be upsetting. Family members also may find it awkward to ask older relatives about their preferences for the end of life. Every patient, however, has the right to participate in decisions to initiate, withhold, or terminate treatment.

Because Ms. Taylor has already indicated that she would rather die than be dependent, a discussion of advance directives, living will and health care proxy is definitely in order, perhaps after her immediate issues have been addressed and she has been reassured about her general health status.

With any elderly patient, it is important to introduce the topic of advance directives when the patient is in relatively good health and prior to any need for life-or-death decisions. The patient needs to make an informed choice of what life-saving procedures he or she would be willing to undergo if ever needed.

Would the patient rather die than be dependent on others even for a short time? In what situations would the patient wish to refuse cardiopulmonary resuscitation and other life-extending procedures? Is the individual's preference for life-extending procedures regardless of the outcome?

Few health care providers would refuse to extend life-saving procedures to a patient with a treatable illness if the prospect of recovery is good. If the individual is incapable of deciding to accept or reject a treatment, has he or she appointed a health care proxy? Are the individual's wishes clear to that proxy?

4. *What information from a social and financial assessment would assist in understanding her level of functioning?*

An assessment of the domains of social and socioeconomic functioning would add information useful in evaluating Ms. Taylor's capacity for independent living. Her functional status data and her ability to live alone prior to her fall suggest that although she has disabilities, she has been coping reasonably well.

Her apartment is in elderly housing. This suggests that she has already made the decision to move to a relatively safe and secure setting with some environmental safeguards, such as grab bars by the shower and toilet, elevator, and so forth.

Her son and daughter-in-law live nearby, giving her an apparently willing support system upon which she can and does call upon for assistance in transportation and shopping.

Information about her activities and life style presents a picture of an elderly woman who has interests, socializes with others, and is neither demented nor depressed. Data on her financial resources are important to determine eligibility for programs such as Medicaid and to assess the ability to pay for services not otherwise provided.

SECTION 5 SUGGESTED READING

1. Doukas DF, Reichel W. *Planning for Uncertainty: A Guide to Living Wills and Other Advance Directives for Health Care.* Baltimore MD: Johns Hopkins University Press, 1993.
   Presents detailed information on advance directives, treatment options, pain treatment, and other frequently asked questions patients may raise about advance directives and the Patient Self-Determination Act.

2. Katz S, Downs TD, Cash HR et al. Progress in the development of an index of ADL. *The Gerontologist.* 1970;10:20–30.
   Contains a widely-used, valid, and reliable instrument to measure ADL among the elderly.

3. Lampman RM. Evaluating and prescribing exercise for elderly patients. *Geriatrics.* 1987;42:63–76.
   Presents data on benefits of exercise training for elderly patients. Describes procedures health care providers should use before prescribing training, such as thorough physical exam and exercise stress test.

4. Lawton MP, Brody EM. Assessment of older people: Self-maintaining and instrumental activities of daily living. *Gerontologist.* 1969;9:179–185.
   Additional information on administration and scoring for instrumental activities of daily living (IADL) scale.

5. Markson, EW. Functional, social, and psychological disability as causes of loss of weight and independence in older community-living people. *Clinics in Geriatric Medicine* 1997; 13(4):639–652.
   Describes ways in which comprehensive, in-home geriatric assessment may alleviate physical disabilities, reduce depression, and ensure adequate nutrition.

6. Nagi SZ. An epidemiology of disability among adults in the United States. *Milbank Memorial Fund Quarterly*. 1976;54:439–468.
   A physical performance scale widely used in research settings, including the Framingham Heart Study.

7. Nagi SZ. Disability concepts revisited: Implications for prevention. In Pope AM and Tarlove AR, eds. *Disability in America: Toward a National Agenda for Prevention.* Washington, DC: National Academy Press, 1991.
   Describes a conceptual scheme useful in public health for viewing the relationship between active pathology, impairment, functional limitation, and disability.

8. Verbrugge LM. Physical and social disability in adults. In Hibbard H, Nutting PA, Gracy ML, eds. *Primary Care Research: Theory and Methods.* Rockville MD: USDHHS (AHCPR Pub no.91-0011). 1991.

Review article covering the importance of nonfatal conditions, current concepts about disablement, ways musculoskeletal impairments and physical function are measured, and ways of thinking about and measuring social disability.

SECTION 6 AUDIO-VISUAL RESOURCES

1. **Functional Assessment of the Older Adult. (Video, 120 minutes)** From a series of video conferences produced by the Virginia Geriatric Education Center, this video is designed to provide information on the conduct of functional assessment. Not available for preview or rental; substantial discount for more than one tape purchased in the VA GEC series.

   Contact: Terra Nova Films, 9848 S. Winchester Ave, Chicago, IL 60643. Phone: 312-881-8491. (Available for purchase only; $149.)

2. **Age Is No Barrier. (Video, 28 minutes)** Depicts benefits of elderly people developing and maintaining an active lifestyle. Focuses on a seniors gymnastics team, ranging in age from 55 to 77 and representing diverse lifestyles and experiences.

   Contact: Filmmakers Library, 124 East 40th Street, New York, NY 10016. Phone: 212-808-4980. (Rental $55; purchase $295).

3. **Home Assessment: The Key to Managing Chronic Disease. (Video, 21 minutes)** Produced by Southern Illinois University School of Medicine, this video takes the viewer step-by-step through an actual home visit by a doctor with an older patient. Useful for training in geriatric care.

   Contact: Terra Nova Films, 9848 S. Winchester Ave, Chicago, IL 60643. Phone: 312-881-8491. (Rental $55; purchase $165.)

4. **I Never Planned on This: Normal Aging. (Video, 46 minutes)** Produced by the Canadian Broadcasting Company, this film examines normal, healthy aging as part of a biological process beginning at birth. Expert geriatricians demonstrate that most elderly are fit, independent, and can live at home.

   Contact: Filmmakers Library, 124 East 40th Street, New York, NY 10016. Phone: 212-808-4980. (Rental $65; purchase $395).

5. **Moving Easy: Lift-Free Patient Transfers. (Video, six tapes at 15 minutes per tape)** Six-part training series designed to teach health care providers, patients, and families innovative techniques for making safe and useful transfers that prevent back injuries in a variety of settings. Each tape presents a basic principle. Not available as single tapes.

   Contact: Terra Nova Films, 9848 S. Winchester Ave, Chicago, IL 60643. Phone: 312-881-8491. (Series rental $125; purchase as a series $590).

6. **No Place Like Home: Long Term Care for the Elderly. (Video, 55 minutes)** This documentary, presenting alternatives to institutionalization, depicts solutions adopted in

New York City, rural Appalachia, and San Francisco. Hosted by the late actress Helen Hayes, it portrays choices for home care that may be useful in a variety of settings.

Contact: Filmmakers Library, 124 East 40th Street, New York, NY. 10016. Phone: 212-808-4983. (Rental $75; sale $395).

SECTION 7 SUGGESTED ACTIVITIES

1. Divide the participants into groups of two. Have one member role-play the health care provider evaluating Ms. Taylor's capacity for ADL and IADL, using instruments given in the handouts. Have the other play Ms. Taylor.

   Score the results. Ask the players to discuss and compare their results.

2. Write one or two paragraphs about your experiences or observations about impairment of functional capacity. What difficulties do these present in everyday living? How would you compensate for any disabilities or modify your lifestyle?

SECTION 8 HANDOUTS/OVERHEADS

KATZ ACTIVITIES OF DAILY LIVING (ADL)

Name .....

Day of Evaluation .....

For each area of functioning listed below, check the description that applies. (The word "assistance" means supervision, direction or personal assistance.)

BATHING—Sponge bath, tub bath or shower.

Receives no assistance (gets in and out of tub by self, if tub is usual means of bathing).

Receives assistance in bathing only one part of the body (such as back or a leg).

Receives assistance in bathing more than one part of the body (or is not bathed).

DRESSING—Gets clothes from closets and drawers, including underclothes, outer garments and fasteners (including braces, if worn).

Gets clothes and gets completely dressed without assistance.

Gets clothes and gets dressed without assistance except for assistance in tying shoes.

Receives assistance in getting clothes or in dressing, or stays partly or fully undressed.

TOILETING—Going to the "toilet room" for bowel and urine elimination; cleaning self after elimination and arranging clothes.

Goes to "toilet room," cleans self and arranges clothes without assistance (may use an object for support, such as cane, walker or wheelchair, and may manage night bedpan or commode, emptying it in the morning.

Receives assistance in going to "toilet room," in cleansing self, in arranging clothes after elimination or in using night bedpan or commode.

Doesn't go to room termed "toilet" for the elimination process.

TRANSFER

Moves in and out of bed and chair without assistance (may use an object for support, such as cane or walker).

Moves in and out of bed or chair with assistance.

Doesn't get out of bed.

CONTINENCE

Controls urination and bowel movement completely by self.

Has occasional "accidents."

Supervision helps keep urine or bowel control; catheter is used or person is incontinent.

FEEDING

Feeds self without assistance.

Feeds self except for getting assistance in cutting meat or buttering bread.

Receives assistance in feeding, or is fed partly or completely by using tubes or intravenous fluids.

Source: Katz S, Downs TD, Cash HR et al. Progress in development of the index of ADL. *Journal of Gerontology*. 1970;10(1):20-30.

HANDOUT/OVERHEAD 1

INSTRUMENTAL ACTIVITIES OF DAILY LIVING (IADL) SCALE
Self-Rated Version Extracted from the Multilevel Assessment Instrument (MAI)

	3 without help	2 with some help	1 completely unable to do
1. Can you use the telephone?			
2. Can you get to places out of walking distance?			
3. Can you go shopping for groceries?			
4. Can you prepare your own meals?			
5. Can you do your own housework?			
6. Can you do your own handyman work?			
7. Can you do your own laundry?			
8a. Do you take medicines or use any medications?			
Yes (If yes, answer Question 8b)			
No (If no, answer Question 8c)			
8b. Do you take your own medicine?*			
8c. If you had to take medicine, could you do it?			
9. Can you manage your own money?			

*To score medication on 8b and 8c, note that "without help" = in the right doses at the right times; "with some help" = if someone prepares it for you and/or reminds you to take it; "completely unable to do" = (are you/would you be) completely unable to take your own medicine?

Source: Lawton MP, Brody EM. Assessment of older people: self-maintaining and instrumental activities of daily living. *Gerontologist*. 1969;9:179-185. Copyright: The Gerontological Society of America. Reprinted with permission.

HANDOUT/OVERHEAD 2

CRITERIA FOR BARTHEL INDEX

INDEX ITEM	SCORE WEIGHT*	DESCRIPTION
Feeding	10	Independent
	5	Needs help
Bathing	5	Performs without assistance
Personal toilet (grooming)	5	Washes face, combs hair, brushes teeth, shaves
Dressing	10	Independent
	5	Needs help
Bowel control	10	No accidents
	5	Occasional accidents
Bladder control	10	No accidents
	5	Occasional accidents
Toilet	10	Independent
	5	Needs help
Chair/bed transfers	15	Independent
	10	Minimum assistance
	5	Able to sit but needs maximum assistance to transfer
Ambulation	15	Independent for 50 yd
	10	With help for 50 yd
	5	Wheelchair for 50 yd
Stair climbing	10	Independent
	5	Needs help

* 0 is scored if unable to perform task.
Source: Mahoney FI, Barthel DW. Functional evaluation: The Barthel Index. *Maryland State Medical Journal*. 1965;14(2):61-65. Reprinted with permission.

SUBTOPIC 2

POLYPHARMACY

TIMELINE (50 minutes)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
5 min	Overview
30 min	Review of Case/Questions
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Physicians in training and in practice, nurse practitioners, nurse practitioner trainees, physician assistants and physician assistant trainees.

At the end of this discussion, participants should be able to:

1. Understand the potential contributions of polypharmacy and adverse drug reactions to physical illness, cognitive impairment, and other disorders.

2. List at least three factors that make adverse drug reactions more likely in old age.

3. Understand the importance of taking a careful medication history for each patient.

4. Know general guidelines for use of medications with elderly patients.

SECTION 2 OVERVIEW

The primary care practitioner working with the elderly is likely to confront the problem of polypharmacy (the use of multiple drugs) or adverse drug reactions (ADRs). While the elderly comprise only about 13 percent of the U.S. population, they consume about 30 percent of all prescription drugs and a disproportionate number of over-the-counter medications.

Cross-sectional studies have shown that the elderly use an average of 1.7 to 2.7 prescribed medications in addition to one over-the counter drug (OTC), and the number of drugs used increases with age. Both polypharmacy and ADRs are more likely among elderly patients.

The majority of studies have surveyed hospital admissions or inpatient populations, and little data are available on ADRs in outpatients. Some research suggests that ADRs are not only more common among older people but may also differ according to gender. However, exclusion of women and elderly from most drug trials has seriously limited data available to the health care provider when deciding upon medications for older women versus older men.

Important physiologic changes occur with increasing age, resulting in changes in pharmacokinetics and pharmacodynamics in the elderly. Although the elderly are able to absorb orally administered drugs appropriately, they may have altered distribution and clearance of medications. Body composition may be altered, resulting in decreased body water, decreased muscle mass, and increased body fat. In elderly of both sexes, hepatic blood flow may be reduced, renal blood flow and kidney filtration may decline, and creatinine clearance may decrease.

Risk Factors for ADRs

The risk of ADRs appears to depend on the number of medications taken rather than on age alone. Other risk factors include increased number of illnesses and severity of illnesses, both of which can result in greater likelihood of medications as well as altered response to drug therapy.

Several factors are associated with the greater probability of ADRs in old age:

- Diminished reserves secondary to disease lead to decreased ability to tolerate stress and respond to medications appropriately.
- Increased prevalence of disease results in the need for more diagnostic and therapeutic interventions to obtain a diagnosis.
- Deficits in memory, sensation, and function increase the probability that patients will make errors in medication schedules.

Adverse drug reactions include idiosyncratic and allergic reactions, toxicity, and side effects. Polypharmacy increases the risk of individual ADRs and drug-drug interactions. Prescribing errors, such as incorrect dosages, are more likely to occur. Illnesses increasing the risk of ADRs include sensory loss, cognitive impairment, and diseases of the kidney, liver and heart.

Risk of ADRs also depends on the medication being used. Within certain classes of drugs, some medications are more appropriate for use with the elderly than others. Among patients with suspected dementia, drug toxicity has been found to be the most common treatable form, associated in 5 percent of patients. Digoxin may alter cognitive functioning, as may a number of other prescription and OTC drugs even at normal therapeutic limits. Among normal volunteers, for example, anticholinergic drugs have been found to alter memory. Numerous drugs affect cognition: neuroleptics, antibiotics, analgesics, steroids, antihistamines, tranquilizers, and drugs for gastrointestinal or cardiovascular disorders, to name a few. Health care providers must be aware of drugs likely to cause problems in elderly patients.

Follow these guidelines when using medications with older people:

- Get a through medication history of each patient, and have the patient bring *all* medications to the appointment.
- Prescribe only when necessary; consider alternatives to medication whenever possible.
- Choose carefully; consider toxicity, drug and disease interactions, compliance and cost.
- Give careful instructions—both verbal and written.
- Initiate therapy one drug at a time.
- Titrate dosage carefully.
- Monitor effects and toxicity closely; use levels when appropriate.
- Stop nonessential medications.
- Review indications for all drugs by reviewing need for each medication at every visit.
- Review efficacy of all drugs by reviewing benefit of each medication at every visit.
- Always consider drugs as a cause of morbidity and toxicity.
- Provide memory aids when possible; consider medication supervision by home nurses.
- Involve families in monitoring adherence to drug regimens.

Reporting Serious ADRs

If you suspect one of your patients—elderly or otherwise—is having a serious ADR, you should report it to the U.S. Food and Drug Administration's MedWatch program. This program, launched in the spring of 1993, provides a nationwide epidemiologic surveillance mechanism to monitor serious adverse drug- and device-related events.

Reports from practicing health professionals are often the first signal that problems may exist. You can report adverse events by fax, phone, modem, or mail [see FDA MedWatch form, available from the Department of Health and Human Services, Public Health Service, Food and Drug Administration, Rockville, MD 20857; (800) 822-7967].

SECTION 3 CASE STUDY/DISCUSSION QUESTIONS

Mr. Brown, an 80–year–old widower, comes to the practice complaining of headaches and dizziness. He is also worried because recently he has felt confused at times.

He was seen by a rheumatologist six months ago because of pain in his knees after walking a short distance. The rheumatologist diagnosed osteoarthritis of the knees after a workup that included blood tests and X-rays. Mr. Brown was told to take Advil or other OTC ibuprofen 400 mg every 4–6 hours as needed.

He has a history of a heart attack 10 years ago. Since then, he has been taking Digoxin, a diuretic (hydrochlorothiazide), and an OTC laxative "when I need it" two to three times a week.

You perform a physical examination. He is moderately obese; both knees are deformed, with crepitations and a decreased range of motion. He complains of pain when the joints are moved. He also has trace edema in both ankles.

You change Mr. Brown's medication to acetaminophen because you suspect that his confusion, headaches, and dizziness may be a direct toxic reaction to ibuprofen. Up to 25 percent of the elderly develop central nervous system effects with ibuprofen, especially headaches and dizziness.

You also consider discontinuing his Digoxin because the indications for its use are unclear. You also note that no elder should receive more than 25 mg of hydrochlorothiazide per day and decide to eliminate this medication entirely on a trial basis. You suggest that he increase the fiber content of his diet and begin an exercise program, which might help both his arthritis and his constipation.

Several months later, after appropriate laboratory studies and a closely supervised trial of discontinuation of Digoxin, Mr. Brown returns for a re-evaluation. He reports that he no longer feels confused, and that his headaches and dizziness have subsided. He has been taking acetaminophen, which relieves pain, and has begun a program of supervised exercise at the local senior center, focusing on his lower extremities and weight loss. He also says that his constipation has gone, since "I stopped taking laxatives, like you said, and started exercising."

1. Could any of Mr. Brown's initial symptoms have resulted from polypharmacy or an ADR?

2. Could his edema have been related to polypharmacy or ADR? In what way?

3. How would you propose to treat his presenting complaints within the context of his other diseases or disabilities? In what ways might this treatment result in improvement of his condition?

SECTION 4 SUGGESTED ANSWERS

1. *Could any of Mr. Brown's initial symptoms have resulted from polypharmacy or an ADR?*

   Mr. Brown indicates that he was receiving OTC Advil (ibuprofen) 400 mg QID for osteoarthritis, hydrochlorothiazide 50 mg QD and Digoxin 0.125 mg QD for his heart, plus an OTC laxative. It is always important to consider any drug as a cause of morbidity or toxicity. There is a sevenfold increase in the incidence of ADRs among those adults age 70 to 79 compared to adults age 20 to 29.

   Although nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen are among the most commonly used drugs, they may have a variety of direct toxic effects on the gastric mucosa, inner ear, brain, liver, kidney, and bone marrow.

   Mr. Brown's confusion, headaches, and dizziness may be a direct toxic reaction to ibuprofen 400 mg. Up to 25 percent of the elderly develop central nervous system effects, especially headaches and dizziness, with ibuprofen 400 mg or greater.

   Mr. Brown was also taking Digoxin, which can cause numerous toxicities, including confusion, anorexia, and cardiac arrhythmias. Digoxin's therapeutic level is very close to its toxic level. Because Digoxin is eliminated by the renal system, any decrease in renal function could result in an increase in serum Digoxin level and in toxicity. An NSAID such as ibuprofen could cause a decrease in renal function by inhibiting prostaglandins. No elder should be on more than 25 mg of hydrochlorothiazide. In addition, hydrochlorothiazide, like many diuretics, can cause elimination of potassium, which can also increase the likelihood of Digoxin toxicity. In addition, diuretics can cause loss of sodium and body water, leading to a fall in blood pressure when standing up (orthostasis).

   A careful drug history should be taken from Mr. Brown, including the laxative he takes, the frequency with which he takes it, and any other medications he may have forgotten to mention. A "brown bag" audit (having the patient bring in all medications that he uses, traditionally in a brown paper bag) would be helpful. People with short-term memory loss are at increased risk of ADRs, as they may forget they have taken medication and take it more often than directed.

   Does Mr. Brown use alcohol? Alcohol may interact with a variety of drugs, causing adverse reactions. In addition, some "tonics," cough syrups, and other liquid medications may contain alcohol. Keep in mind that elderly patients' history of alcohol consumption, especially if they are cognitively impaired, is likely to be unreliable. It is important to verify the patient's use of alcohol with a family member. However, family members may be unaware of, or deny, heavy use of alcohol by a relative. This matter requires careful questioning by the health care provider.

2. *Could his edema have been related to polypharmacy or ADR? In what way?*

NSAIDs also are prostaglandin inhibitors. They can reduce renal blood flow and produce electrolyte disturbances, interfering with the effect of diuretics and putting Mr. Brown at risk for NSAID-induced renal insufficiency. The increased ankle edema may indicate significant deterioration in renal function or fluid retention.

3. *How would you propose to treat his presenting complaints within the context of his other diseases or disabilities? In what ways might this treatment result in improvement of his condition?*

Because osteoarthritis typically involves little inflammation, Mr. Brown benefited from a trial of acetaminophen, a good analgesic with no gastric or renal toxicity. He should also benefit from an appropriate program of exercise for his lower extremities and weight loss.

His electrolytes and renal function were evaluated with appropriate laboratory studies. After a review of his history and reassessment of his cardiac function, the need for his Digoxin and hydrochlorothiazide was reviewed and a trial of discontinuation begun under close supervision.

After his medications had been changed, Mr. Brown was seen for re-evaluation of his knee pain, confusion, and dizziness. Mr. Brown's follow-up visit suggests that careful assessment of his history, medications, and cardiac function, substitution of acetaminophen, and suspension of Digoxin and hydrochlorothiazide under supervision resulted in improvement of his general functioning. Always consider polypharmacy and ADRs as a factor in any elderly patient.

SECTION 5 SUGGESTED READING

1. Ballou SP, Kushner I. Chronic inflammation in older people: Recognition, consequences, and potential intervention. *Clinics in Geriatric Medicine*, 1997:13(4):653–669.
   Presents information on very common chronic, age-related disorders associated with inflammatory processes, their consequences, and careful treatment. Includes a discussion of common side effects with current NSAIDs, including gastrointestinal mucosal injury, nephrotoxicity, and hepatotoxicity.

2. Gray MW. Polypharmacy in the elderly: Implications for nursing. *Orthopedic Nursing*. 1990;9(6):49–54.
   Presents suggestions for obtaining a complete drug history and explanations of the role of age-related changes on effects of medication on the elderly.

3 Gurwitz JH, Everitt DE, Monane M, et al. The impact of ibuprofen on the efficacy of hypertensive treatment with hydrochlorothiazide in elderly persons. *Journal of Gerontology*,1996;51A:M74.
   Presents information on monitoring use of NSAIDS in elders, including frequent monitoring of blood pressure.

4. Montamet SC, Cusack B. Overcoming problems with polypharmacy and drug misuse in the elderly. *Clinical Geriatric Medicine*. 1992;8(1):143–158.
   This review article details polypharmacy abuses in ambulatory and inpatient care. It also discusses the need to improve prescription practices, enhance cooperation among health care personnel on optimal drug use, and involve patients in the loop.

5. Stewart RB, Hale WE. Acute confusional states in older adults and the role of polypharmacy. *Annual Review of Health*. 1992;13:415–430.
   Comprehensive review of polypharmacy and ADRs as factors associated with cognitive impairment of the elderly. Also reviews the need for computerized records of prescriptions to prevent problems of polypharmacy, and for more health professional education concerning the risks of drug therapy among the elderly.

SECTION 6 AUDIO-VISUAL RESOURCES

1. **Alcohol, Drugs, and Seniors: Tarnished Dreams. (Video, 23 minutes)** Four re-enacted case histories, showing abuse and misuse of alcohol or drugs in older adults and ways of combating addiction.

   Contact: Terra Nova, 9848 S. Winchester Ave, Chicago, IL 60643.
   Phone: 312-881-8491. (Rental $55; purchase $295).

2. **Elder-ed: The Wise Use of Drugs. (16mm. or video, 30 minutes)** Produced by the National Institute of Drug Abuse, this presentation covers the importance of knowing complete information about any drug being taken and common problems occurring with drug use among elders at home. Recommended for health care providers working with elders.

   Contact: National Audiovisual Center, General Services Administration, Washington DC. (Purchase only; price not available).

3. **Medications and Elders: A Delicate Balance. (Video, 33 minutes)** Produced by the University of New Mexico Geriatric Education Center and designed for health professional audiences, this video describes how elders handle medications differently from younger people, and how this and other factors contribute to noncompliance, drug interactions, and other problems. Video can be stopped in various places for discussion.

   Contact: Terra Nova Films, 9848 S. Winchester Avenue, Chicago, IL 60643. Phone: 312-881-8491. (Rental $55; purchase $165).

SECTION 7 HANDOUTS/OVERHEADS (ATTACHED)

Guidelines for Use of Medications with Older People Include:

1. **Get a through medication history of each patient and have the patient bring all medications to the appointment.**

2. **Prescribe only when necessary. C onsider alternatives to medications whenever possible.**

3. **Choose carefully, considering toxicity, drug and disease interactions, compliance and cost.**

4. **Give careful instructions -- both verbal and written.**

5. **Initiate therapy one drug at a time.**

6. **Titrate dosage carefully.**

7. **Monitor effects and toxicity closely; use levels when appropriate.**

8. **Stop nonessential medications.**

9. **Review indications for all drugs by reviewing need for each medication at every visit.**

10. **Review evidence of efficacy of all drugs by reviewing benefit of each medication at every visit.**

11. **Always consider drugs as a cause of morbidity and toxicity.**

12. **Provide memory aids when possible; consider medication supervision by home nurses.**

13. **Involve families in monitoring adherence to drug regimens.**

HANDOUT/OVERHEAD 1

SUBTOPIC 3

DEMENTIA

TIMELINE (60 minutes)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
5 min	Overview
25 min	Review of Case/Questions
15 min	Suggested Activity
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Physicians in training and in practice, nurse practitioners, nurse practitioner trainees, physician assistants, and physician assistant trainees.

At the end of this discussion, participants should be able to:

1. Identify the diagnostic criteria for dementia and differentiate between dementia, delirium, and major depression.

2. Understand the possible contributions of alcohol use, physical illness, malnutrition, and drugs to symptoms of dementia.

3. Understand the importance of careful history taking in establishing a diagnosis of dementia.

4. Explain dementia to a patient and family member and discuss the importance of planning patient care.

SECTION 2 OVERVIEW

Dementia is found primarily in the elderly, although it may occur at any age. Diagnosis and management of dementia are increasingly recognized as important skills in primary care of the elderly. Dementia may be irreversible and progress relentlessly, as in Alzheimer's disease, or it may be potentially reversible, as in vitamin B_{12} deficiency.

A diagnosis of dementia, using criteria established by the American Psychiatric Association and published in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV), requires demonstrable impairment in long- and short-term memory. In addition, symptoms of dementia must include at least one of the following:

- Impairment in abstract thinking
- Impaired judgment on interpersonal, family, or job issues
- Other disturbances of higher brain function, such as aphasia (language disorder), apraxia (inability to carry out motor activities despite intact comprehension and motor function), agnosia (failure to recognize or identify objects), and difficulties in constructing or copying three-dimensional designs
- Personality change ("not himself/herself")

In addition, memory loss and other symptoms must significantly interfere with work, usual social activities, or relationships with others. These symptoms must not occur only in the course of delirium (see below). And there must be either:

- Evidence from history, physical exam, or lab tests of a specific organic factor related to the cause of symptoms
- Presumption of an organic factor if symptoms cannot be explained by any non-organic mental disorder, such as major depression

Delirium

Delirium is an organic condition associated with systemic infections, some metabolic disorders, liver or kidney disease, post-operative states, and withdrawal from psychoactive substances. Delirium may often be mistaken for dementia. Memory impairment is common in both. Delirium, however, develops abruptly (hours to days) and fluctuates over the course of a day.

Symptoms of delirium identified in DSM-III-R include disorganized thinking and a reduced ability to maintain and shift attention. In addition, at least two of the following symptoms must be present:

- Reduced level of consciousness
- Misinterpretations, illusions, delusions, or hallucinations
- Disturbance of sleep-wake cycle; insomnia or daytime sleepiness
- Increased/decreased psychomotor activity
- Disorientation to time, place, or person

- Inability to learn new material or recall past events

Causes of Dementia

When dementia is suspected or diagnosed, it is important to look for potentially reversible or treatable causes. A number of conditions can cause dementia, including:

- Vascular disease
- Infections of the central nervous system, such as meningitis, central nervous system syphilis, encephalitis, and HIV-related disorders
- Brain trauma such as subdural hematoma
- Metabolic disturbance, including pernicious anemia, hypothyroidism, and B_{12} deficiency
- Drug reactions or interactions
- Chronic alcoholism
- Variety of neurological diseases, such as Huntington's chorea, Parkinson's disease, and multiple sclerosis

The onset and course of dementia vary according to its cause.

Assessing Dementia

A careful history of onset, duration, and progression is especially important. A physical examination should be performed with particular attention to the central and peripheral nervous systems. Ability to perform activities of daily living (ADLs include bathing, dressing, grooming and feeding) and instrumental activities of daily living (IADLs include handling finances, transportation, cooking, using the phone, shopping) should be evaluated.

Dementia may be classified as mild, moderate or severe.

- In *mild* dementia, IADL is impaired but ADL usually intact, and the capacity for independent living remains with relatively intact judgment.
- In *moderate* dementia, elders may be unable to perform any IADLs but perform ADLs independently or with assistance. Independent living is hazardous and some supervision is required.
- In *severe* dementia, the patient is usually unable to perform most ADLs, including maintaining personal hygiene. The patient may be incoherent or mute and incontinent.

A short, structured mental status exam is vital. The Mini-Mental State Exam (MMSE) takes five to 10 minutes to complete and is a useful and reliable screening tool. Points, scored on a 30-point scale, are awarded for correct responses. It is, however, important to take into consideration not only the level of education of the patient but his or her familiarity with the English language, as many elders who are foreign born or have lived all their lives in ethnic enclaves may have difficulty in responding due to language difficulties.

Low levels of education or unfamiliarity with English obviously affect the patient's scores on registration, attention, and calculation, and should be taken into account. For example, a study by

Crum, Anthony, Bassett, and Folstein (1993) found that community-dwelling elders aged 65–69 with 0–4 years of education had a mean score of 22 compared to those with 9–12 years of education who had a mean score of 28.

Auditory impairment may also affect scores because hearing loss most commonly affects the ability to distinguish consonants. The examiner must guard against false results by: (1) ascertaining level of education and its probable impact on the score; (2) paying careful attention to any possible hearing loss (denied by many auditorily impaired elders) and speaking clearly in a lower register (not shouting); and (3) considering use of an interpreter with an elder whose comprehension of English is limited. In short, it is important to seek as much information as possible about the education, comprehension of English, and hearing of the respondent prior to testing.

Information about psychiatric symptoms should also be sought. In the early phases of dementia, elders may be aware that their cognitive functioning is impaired and may be anxious or depressed. They may try to conceal or compensate for these losses by extreme orderliness, withdrawal from social contacts, or a tendency to relate events in great detail to hide gaps in memory loss.

In later stages of dementia, however, awareness of intellectual impairment usually disappears. Paranoid delusions are common in moderately and severely demented patients. Beliefs that neighbors, friends, or relatives are stealing from them, hallucinations, confusion, and inability to recognize family members—or their own reflections in the mirror—may also occur.

Dementia and Depression

The most frequently missed psychiatric cause of cognitive impairment is depression. The "pseudodementia" of severe depression is a common, treatable cause of cognitive impairment. In dementia, declines in cognitive function are usually more gradual than in a major depression; dysphoric mood is less frequent. Patients with dementia can also be depressed, especially if they have insight into their condition.

Based on the history and physical examination of the patient, lab tests may be ordered to assist evaluation of possibly reversible factors and more precise diagnosis. If symptoms suggesting a major depressive episode are at least as prominent as memory impairment and there are no signs of a specific organic cause, a diagnosis of major depressive episode should be made.

The health care provider should help the patient and relatives or caregivers of a demented elder to understand the disease, prognosis, and goals of treatment. Most caregivers are unable to care for a severely demented adult in their homes. In the late moderate and severe stages of dementia, the physical and psychological demands are too much for an elderly spouse or middle-aged son or daughter. Ways in which caregivers may obtain respite care for their relative and long-term care options should be explained.

SECTION 3 CASE STUDY/DISCUSSION QUESTIONS

Anna Jones, a 78–year–old widow, comes to your office with her daughter. She has lived alone since her husband died eight years ago. Mrs. Jones receives Social Security benefits plus a pension from the city where she was employed as a school clerk for 40 years. She has a history of congestive heart failure, for which she is receiving Digoxin. She also takes calcium supplements and an over-the-counter antihistamine, as she is restless at night.

According to her daughter, Mrs. Jones is "not herself any more." She has become more forgetful in the past two or three years, and when she drove to her daughter's house to celebrate her birthday, she got lost going home. She is unwilling to stop driving, however. She also is not paying her bills but has enough money in her bank account to do so.

Although Mrs. Jones rarely cooks, her gas oven is frequently on, as she complains of feeling cold. Her daughter is concerned because Mrs. Jones does not always light the oven properly. Sometimes Mrs. Jones has difficulty finding a word or phrasing a sentence completely.

Mrs. Jones is very thin, with uncombed hair and grease spots on her skirt. Although the day is warm, she wears a heavy sweater. She says her memory is fine, and she doesn't know why her daughter is concerned. Mrs. Jones insists she is perfectly all right. She suspects that her daughter and son-in-law want to "put me away so they can get hold of my pension." She says she doesn't know why her daughter is worried about the gas oven, as she uses it to prepare three meals a day, but she is unable to recall what she had for breakfast—"just the usual, you know."

You perform a physical exam. Mrs. Jones's mouth is very dry, suggesting that she may be dehydrated. Her extremities are cold and clammy. There are no other notable findings. Her blood pressure is normal. When you ask about her ability to perform ADLs and IADLs, she gets indignant and says she is perfectly competent to do everything she could do at 20 and that her daughter must have been lying.

On the Mini-Mental State Exam, when asked to spell "world" backward, she says that she never was a good speller. Her score on the Mini-Mental is 18.

1. Which of Mrs. Jones's symptoms suggest she may suffer from a dementing illness?

2. Could any medications she is taking contribute to her dementia?

3. What additional information would you want about her medical condition, functional status, and nutritional status? How would you obtain it?

4. How would you advise the patient and her daughter about the diagnosis and probable course of her dementia?

SECTION 4 SUGGESTED ANSWERS

1. *Which of Mrs. Jones's symptoms suggest she may suffer from a dementing illness?*

   For a diagnosis of dementia, impairment in long- and short-term memory should be present. Because Mrs. Jones has gradually become more forgetful and she appears alert, she is probably suffering from dementia rather than delirium. Although she denies any problems with her memory, she shows obvious signs of short-term memory loss. Her difficulty in finding words and completing sentences suggests that she has aphasia.

   Like Mrs. Jones, many elders with dementia are unaware of their memory loss. As the disease progresses, they lose insight or awareness of their deficits. Reference to any memory problems can cause a "catastrophic reaction:" The patient becomes angry, frustrated and denies any problems.

   Mrs. Jones also does not seem to suffer from major depression. In depression, loss of cognitive function is often spotty and changeable, occurring over a relatively short time and beginning with mood changes or somatic delusions. Patients with dementia do not usually have the dysphoric mood common in depression. Depressed patients may complain about memory loss but perform better than expected on a careful mental status examination; demented patients may deny memory loss but perform poorly on tests.

   Mrs. Jones shows signs of personality change. Her daughter says the patient is "not herself" anymore, and Mrs. Jones exhibits some paranoid ideation during your interview. That she got lost driving home from her daughter's house suggests other disturbances of higher brain function, as does her failure to pay her bills when she has enough money to do so. Her judgment also appears impaired; she heats with the gas oven and continues to drive even though she gets lost.

   Mrs. Jones' score of 18 on the Folstein Mini-Mental State Exam suggests moderate dementia in a woman with a high school education whose native language is English. She apparently is having difficulty with instrumental activities of daily living. Her uncombed hair and the grease spots on her clothing suggest that she may also have trouble with basic ADLs. Her capacity for totally independent living thus seems unlikely.

2. *Could any medications she is taking contribute to her dementia?*

   When a patient appears cognitively impaired, a first step is to remove or treat any contributing factors, such as drug toxicity, depression, or B_{12} deficiency. About 20 percent of patients with cognitive impairment have objective improvement with appropriate diagnosis and treatment. In Mrs. Jones' case, she is taking at least three medications that her daughter knows of—Digoxin, calcium and an over-the-counter antihistamine. At least two of these drugs—Digoxin and the antihistamine—affect cognitive function.

   A careful drug history should be taken from Mrs. Jones's daughter. Drug intoxication can result both from prescription and over-the-counter medications. People with short-term

memory loss are at increased risk of intoxication as they may forget they had taken a particular medication and take it more often than directed. Numerous drugs affect cognition, including neuroleptics, antibiotics, analgesics, steroids, antihistamines, tranquilizers, drugs for gastrointestinal or cardiovascular disorders, and other medications.

Discontinue every medication that is not absolutely necessary. Mrs. Jones's use of Digoxin in particular should be re-evaluated, as Digoxin toxicity may produce symptoms of confusion, disorientation, and visual disturbances.

Does Mrs. Jones use alcohol? Vitamin B_{12} deficiency can produce Korsakoff's dementia. Elderly patients' history of alcohol consumption, especially if they are cognitively impaired, is likely to be unreliable. It is important to verify the use of alcohol with a family member. Bear in mind, however, that family members may be unaware of or deny heavy use of alcohol by a relative. This issue requires careful questioning by the health care provider.

3. *What additional information would you want about her medical condition, functional status, and nutritional status? How would you obtain it?*

For a definite diagnosis of dementia, there must be either:

- Evidence from history, physical exam, or lab tests of a specific organic factor related to the cause of symptoms
- Presumption of an organic factor, if symptoms cannot be explained by any non-organic mental disorder such as major depression

It is important to evaluate treatable conditions causing or aggravating dementia whenever considering the diagnosis of dementia. As many as two-thirds of demented elderly have one or more undiagnosed chronic and acute medical illness. In at least half of demented elderly patients, these illnesses contribute to cognitive impairment.

Treatable disorders may be ignored due to a patient's inability to provide an accurate medical history, social isolation, atypical presentations, or presentation of multiple illnesses. When dementia is suspected, additional information must be obtained from relatives or caretakers of elders.

Mrs. Jones appears dehydrated—a common metabolic problem causing confusion in older people. You should seek reasons for her dehydration. She also has difficulty sleeping. Is there a treatable physical cause, such as pain or urinary infection?

Additional information about the patient's diet should be elicited from her daughter because Mrs. Jones appears thin. Malnutrition can contribute to cognitive impairment.

Additional information should also be gathered from her daughter to evaluate the extent of the patient's impairment. It is extremely important not to take this history in Mrs. Jones' presence because her daughter may not want to tell all of her mother's problems in front of

her, fearing embarrassment or anger from the patient. If a family member gives a complete history in front of a patient with no insight, it is likely to increase anger or paranoia.

After the patient interview, Mrs. Jones may be taken into another room while her daughter is interviewed alone.

Mrs. Jones is thin, overdressed, and has cold, clammy extremities. Does she have any undiagnosed or untreated medical conditions that might explain her mental condition, weight, and hypothermia? Common tests to determine physical disorders contributing to confusion include a complete blood count, electrolytes, glucose, creatinine, TSH, and urine analysis. Based on the results of a careful history and physical exam, additional tests may be ordered selectively, such as a B_{12} level, Digoxin level, and possibly a CT scan. The patient's history of poor nutrition suggests a serum folate might be helpful.

Finally, level of education, ability to comprehend English, vision, and hearing problems may increase cognitive impairment. A careful visual examination should be performed to evaluate whether Mrs. Jones's failure to find her way home, pay her bills, and light her stove correctly are due to eye problems. Similarly, a hearing evaluation would help ascertain whether her paranoia is due to difficulty in hearing. Even mild deafness can produce suspicion and social isolation.

4. *How would you advise the patient and her daughter about the diagnosis and probable course of her dementia?*

Before developing a care plan for any patient with dementia, it is important to evaluate any reversible causes or contributing illnesses. When these data have been evaluated, the health care provider's task is to help the patient and relatives or caregivers understand the disease, prognosis, and goals of treatment.

If Mrs. Jones has Alzheimer's disease—the most common irreversible brain disease—its course is progressive, with deterioration of intellect, speech, memory, and judgment. If Mrs. Jones has vascular disease—the second most frequent cause of dementia, usually related to hypertension, arteriosclerotic cardiovascular disease, or diabetes and often accompanied by small strokes—its course is slow and sporadic. It may cause an abnormal gait and other neurological abnormalities.

Counseling about the diagnosis and prognosis will provide important information for financial planning and consideration of legal implications. Advance directives, such as a living will, health care surrogate, or durable power of attorney, should be addressed as early in the disease as possible so that the patient can participate in the decision.

The goal of all treatment plans for patients with irreversible dementia is to help them realize their fullest capacities for independent living and dignity. Respect for patients' own value systems—which may not agree with that of the health care provider or patients families—is crucial.

The services Mrs. Jones will require will depend on a variety of factors, including the diagnosis, capacity of informal caregivers to provide care, and acceptability of services to family and patient. Every effort should be made to maintain patient involvement in the decision-making process. The range of services includes:

In-home services. Available in many communities, these include emergency alarm systems, homemaker services, home health care, and meals-on-wheels. They enable elders to stay in their own homes or with a relative.

Adult day care. This is designed for people who require daytime supervision but can spend their evenings with family members.

Respite care. Ranging from in-home visits of a few hours to an institutional stay, respite care allows caregivers time away from their impaired elders.

Hospice or palliative programs. These programs care for the terminally ill at home or in institutional settings.

Nursing home or other long-term care institution. Local Agencies on Aging, Councils on Aging, and Alzheimer's Association groups may be contacted for lists of services currently available.

Medication. There are a number of possible approaches to treatment, but so far none has been clearly demonstrated to cause significant improvement in all AD patients. To date, only Cognex or Tacrine and Aricept (both cholinesterase inhibitors) have been approved for treatment by the U.S. Food and Drug Administration. Other treatments under investigation include estrogen, inhibitors of oxidation such as vitamin E, non-narcotic analgesics such as ibuprofen, etc. For those with access to the Internet, the Alzheimer Web Home Page contains up-to-date information and a current listing of therapeutic approaches.

Mrs. Jones shows signs of early moderate dementia. She and her daughter might consider a variety of supportive, in-home services, including an emergency alarm system to call for help, meals-on-wheels, and a homemaker. Mrs. Jones needs to realize that, in view of her impaired judgment and difficulty finding her way, it is dangerous for her to continue driving. Heating with the gas oven is also a hazard. She and her daughter should consider replacing the oven with a microwave and exploring options for warmth, such as turning the heat up or buying a safe electric heater with automatic cutoff.

Mrs. Jones is likely to require live-in care in the near future unless her condition can be reversed. Many people with dementia live 10 to 15 years after diagnosis and require increasingly expensive care. This is a good time to explain to Mrs. Jones and her daughter how they might obtain social service support, respite care and long-term care.

SECTION 5 SUGGESTED READING

1. Alzheimer's Disease Education and Referral Center. *Caring and Sharing: A Catalog of Training Materials from Alzheimer's Disease Centers*.
   This catalog contains information about training materials, primarily videos in VHS format, with accompanying manuals and guides that are available from the Alzheimer's Disease Education and Referral Center (ADEAR). A useful resource for faculty, students and family members dealing with Senile Dementia of the Alzheimer's Type (SDAT).

2. Barry PP. The demented elderly patient: Evaluation and management. *Journal of the Florida Medical Association*. 1991;78:767–769.
   Review of evaluation and management procedures for dealing with the demented elderly.

3. Barry PP, Moskowitz MA. The diagnosis of reversible dementia in the elderly: A critical review. *Archives of Internal Medicine*. 1988;148:1914–1918.
   Critical review of the literature. Concludes that many studies of patients presenting with cognitive impairment contain numerous methodological problems.

4. Brock CD, Simpson WM. Dementia, depression, or grief? The differential diagnosis. *Geriatrics*. 1990;45(10):37–43.
   This review offers a primary care perspective of the distinguishing features for dementia, depression, and grief, as well as a discussion of antidepressant medications used mostly with elders.

5. Crum RM, Anthony JC, Bassett SS, Folstein MF. Population-based norms for the Mini-Mental State Examination by age and educational level. *Journal of the American Medical Association*. 1993;269:2386–2391.
   Updates the interpretation of the MMSE using recent data from community populations and presents age and educational differences in mean and median scores.

6. Folstein MF, Folstein SE, McHugh PR. Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*. 1975;12:189–198.
   Contains the Mini-Mental State Exam, a useful, easily administered, and reliable test of cognitive functioning.

7. Mace NL, Rabins PV. *The 36-Hour Day*. Baltimore, MD: Johns Hopkins Press. 1981.
   Written for caretakers of patients with Alzheimer's disease, this book contains many useful suggestions that the health care provider may use in counseling families and planning treatment.

8. Odenheimer GL. Dementia and the older driver. *Clin Geriatr Med*. 1993;9:349–364.
   A review of the public safety issues and a discussion of the management of this difficult problem.

SECTION 6 AUDIO-VISUAL RESOURCES

1. **Alzheimer's 101: The Basics of Caregiving. (Video, 85 minutes)** Produced by South Carolina Educational Television, this educational package is designed to train professional and family caregivers of people with Alzheimer's disease. Divided into 18 segments, it is accompanied by a trainer's manual and learner's guide.

   Contact: Terra Nova Films, 9848 S. Winchester Ave, Chicago, IL 60643. Phone: 312-881-8491. (Purchase $295; rental $55).

2. **An Alzheimer's Story. (Video, 28 minutes)** Told without narration, this documentary follows a family with an Alzheimer victim over a two-year period, from the initial memory loss of a family member and her diagnosis with AD to her final days in a nursing home and her inability to respond.

   Contact: Filmmakers Library, 124 E. 40th Street, New York, NY 10016. Phone: 212-808-4980. (Purchase $275; rental $55).

3. **Dealing With Alzheimer's: Facing Difficult Decisions. (Video, 20 minutes)** Briefly describes changes in moderate and severe Alzheimer's disease and the process that families might follow when facing difficult decisions at these stages. Addresses home versus institutional care, medical treatment, and prolongation of life.

   Contact: Terra Nova Films, 9848 S. Winchester Ave, Chicago, IL 60643. Phone: 312-881-8491. (Purchase $135; rental $45).

4. **You Must Remember This: Inside Alzheimer's Disease. (Video, 57 minutes)** Winner of the Red Ribbon, 1991 American Film and Video–VHS Festival, this Australian film shows patients at various stages of dementia, as well as their families. Medical experts provide commentary to link symptoms with their underlying neurological disorder.

   Contact: Filmmakers Library, 124 E. 40th Street, New York, NY 10016. Phone: 212-808-4980. (Purchase $350; rental $75).

5. **Wesley Hall: A Special Life. (Video, 28 minutes)** Award-winning documentary film produced by the University of Michigan Institute of Gerontology portrays the program and its residents in a high-quality living situation for Alzheimer's patients.

   Contact: Terra Nova Films, 9848 S. Winchester Ave, Chicago, IL 60643. Phone: 312-881-8491. (Purchase $245; rental $55).

5. **When the Day Comes. (Video—VHS or 16 mm; 28 minutes)** Documentary from the National Film Board of Canada. Presents four female caregivers's views on emotional satisfaction; high risk of burnout, illness and isolation; and need for support systems.

Contact: Filmmaker's Library, 124 E. 40th Street, New York, NY 10016. Phone: 212-808-4980. (16 mm $595; no rental. Video $295 or rental for $55).

6. **Caring for the Cognitively Impaired. (Five videos, two manuals and appendices. Available only as a set)** A 10-session training program designed for nurses and nurse educators on the assessment, care, and management of the cognitively impaired patient. The videos include:

- Biomedical Aspects of Aging and Alzheimer's Disease (28 minutes)
- Caring for the Cognitively Impaired Patient (16 minutes)
- Cognitive Assessment (17 minutes)
- Case Management (13 minutes)
- Reminiscence Therapy (20 minutes)

The accompanying teacher's guide includes 10 independent instructional modules, each covering a specific aspect of care. A user's guide contains student material for each of the 10 sessions outlined in the teacher's guide. The appendices include four modules of slide text suitable for overhead projection; copies of several assessment instruments for mental state; two indices for assessing activities of daily living; and other materials.

Contact: Alzheimer's Disease Education and Referral Center, P.O. Box 8250, Silver Spring, MD 20907-8250. Phone: 800-438-4380.

SECTION 7 SUGGESTED ACTIVITIES

1. Break the class into groups of three. Let one person in each group be the health care provider, one a demented older patient, and the third a family member. Role-play your response to the elderly patient who:

    - Has difficulty finding words and naming objects, and is partially deaf
    - Has at least three symptoms of dementia but says he or she feels fine and has no memory problems—and also becomes angry
    - Thinks family members are stealing from him or her
    - Has multiple physical problems and dementia
    - Is accompanied by a relative who refuses to leave the room and talks about the patient's symptoms

2. Write two or three paragraphs on your feelings about and experiences with dementia in old age. Think about how these feelings and experiences may help or hinder you in diagnosing and dealing with older adults and their family members.

3. Write two or three paragraphs outlining how you would advise a patient with early Alzheimer's and his or her family member about the diagnosis and probable course of the disease. Think about difficulties you may experience in such a discussion.

SECTION 8 HANDOUTS/OVERHEADS

SYMPTOMS OF DEMENTIA MUST INCLUDE AT LEAST ONE OF THE FOLLOWING:

- Impairment in abstract thinking
- Impaired judgment about interpersonal, family, or job issues
- Other disturbances of higher brain function, such as:
  - **Aphasia** (language disorder)
  - **Apraxia** (inability to carry out motor activities despite intact comprehension and motor function)
  - **Agnosia** (failure to recognize or identify objects)
  - **Visuo-spacial** difficulties (for example, constructing or copying three-dimensional designs)
- Personality change ("not him/herself")

IN ADDITION, MEMORY LOSS AND OTHER SYMPTOMS MUST:

- **Significantly interfere** with work, usual social activities, or relationships
- **Not** occur only in the course of delirium

AND THERE MUST BE EITHER:

- Evidence of a specific organic factor related to the cause of symptoms

or

- Presumption of an organic factor if no nonorganic mental disorder is present

Source: Adapted from *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.* Washington, DC: American Psychiatric Association. 1987:107.

HANDOUT/OVERHEAD 1

SYMPTOMS OF DELIRIUM INCLUDE:

- Disorganized thinking
- Reduced ability to maintain and shift attention
    1.wandering attention
    2.unable to switch topics

In Addition, at Least Two of the Following Symptoms Must Be Present:

- Reduced level of consciousness
- Misinterpretations, delusions, or hallucinations
- Disturbance of sleep-wake cycle; insomnia or daytime sleepiness
- Increased/decreased psychomotor activity
- Disorientation to time, place, or person
- Inability to learn new material or recall past events

Source: Adapted from *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.* Washington, DC: American Psychiatric Association. 1987.

HANDOUT/OVERHEAD 2

DRUGS CONTRIBUTING TO COGNITIVE IMPAIRMENT

- Antihypertensive medications
- Cardiovascular medications
- Gastrointestinal medications
- Sedatives (barbiturates and tranquilizers)
- Cold and allergy medications
- Any drug with central nervous system effects

HANDOUT/OVERHEAD 3

FOLSTEIN MINI-MENTAL STATE EXAMINATION (MMSE)

ORIENTATION

Score one point for each correct answer to the following questions. There should be no prompting. Record verbatim responses.

Score **Question** **Response**

..... What is the year? _____

..... What is the season? _____

.... What is the date? _____

..... What is the day? _____

..... What state are we in? _____

..... What country are we in? _____

..... What city are we in? _____

REGISTRATION

Say, "I am going to name three objects. I want you to repeat them after me, and I want you to remember them because I am going to ask you to name them again later." Say the words "apple, penny, table" clearly and slowly, about one second for each. After you have said all three, ask the patient to repeat them. Record responses of first repetition below. Score one point for each correct answer from the first repetition, for a total possible score of three.

If the patient does not name all three objects correctly on the first repetition, repeat the names of all three objects and ask the patient to repeat them. Keep trying until the patient answers correctly, up to six trials. If the patient cannot answer correctly after six trials, RECALL (below) cannot be meaningfully tested.

Score **Responses**

....

ATTENTION AND CALCULATION

Say, "I would like you to count backwards from 100 by sevens." Correct responses are "93, 86, 79, 72, 65". Record responses below. Score one point for each correct answer down to 65, for a maximum possible score of five.

Score **Responses**

....

If the patient is able to do this, go on to RECALL. If the patient is unable to do this, then say, "I am going to spell a word, and then I want you to spell the word backwards. The word is 'world,' W-O-R-L-D. Now you spell it backwards." Record responses below. Correct answer is D-L-R-O-W. Score one point for each correct response, to a maximum score of five.

Score **Responses**

....

RECALL

Ask the patient to repeat the objects named above (see REGISTRATION). Record the patient's responses below. Score one point for each correct answer, for a total possible score of three.

Score **Responses**

....

LANGUAGE

Point to a pencil and a watch and ask the patient to name these objects. Record responses below, score one point for each correct response for a total possible score of two.

Score **Responses**

MMSE PAGE THREE

Score

Say, "Please repeat after me: 'No ifs, ands or buts.'" Score a point for a correct response.

Say, "Please take this paper in your right hand, fold it in half and put it on the floor." Score one point for each command followed correctly, for a total of three points.

Show the patient the sign that says "Close your eyes." Ask the person to read and do what it says on the sign. Score one point if patient correctly follows the command.

Ask the patient to write a sentence on a piece of paper. Score one point for a grammatical sentence with at least subject and verb. Ignore spelling errors.

Ask the patient to copy the design shown. The patient's design should include two intersecting pentagons, and the figure made by the intersecting lines should be a quadrilateral. Score one point if drawn correctly.

TOTAL SCORE

Total up the scores from each part.

Patient Score ___

Maximum possible score: 30

Source: Reprinted from Folstein MF, Folstein SE, McHugh PR, "Mini-Mental State": A practical method for grading the cognitive state of patients for the clinician, *Journal of Psychiatric Research*, 1975;12:189-198, with kind permission from Elsevier Science Ltd., The Boulevard, Langford Lane, Kidlington, OX5 1GB, U.K.

HANDOUT/OVERHEAD 4

CLOSE

YOUR

EYES

HANDOUT/OVERHEAD 5

SUBTOPIC 4

DEPRESSION

TIMELINE (60 minutes)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
5 min	Overview
30 min	Review of Case/Questions
10 min	Suggested Activity
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Physicians in training and in practice, nurse practitioners, nurse practitioner trainees, physician assistants, and physicians assistant trainees.

At the end of this discussion, participants should be able to:

1. Identify the diagnostic criteria and social risk factors for major depression.

2. Differentiate between dementia, uncomplicated bereavement, and major depression.

3. Understand the possible contributions of alcohol use or medications to symptoms of depression.

4. Comprehend that many older adults who are depressed complain of somatic symptoms rather than of depression.

5. Understand the importance of careful history taking in establishing a diagnosis of depression.

SECTION 2 OVERVIEW

Depression is the most common psychiatric problem among older people. Although estimates of the prevalence of depressive symptoms in the elderly vary, primary care practitioners are often the first to be consulted when an elderly person has symptoms of depression.

Depressed older people are often distressed about memory loss. In younger people, changes in attention span, concentration and memory are usually recognized as signs of depression, but among older people such changes are often misdiagnosed as dementia. In depression, however, loss in cognitive function is often spotty and changeable, occurring over a relatively short period, and beginning with mood changes or somatic delusions.

Diagnosing Depression

You can confirm diagnoses of major depression, dementia or grief by using DMS-III-R criteria, established by the American Psychiatric Association (APA), which apply equally to all age groups. The APA has not established separate criteria for depression for the elderly. According to the DSM-III-R, symptoms of a major depression include at least five of the following symptoms (see Handout/Overhead 1, DSM-IV Symptoms of Major Depression).

Depression and Grief

Major depression differs from uncomplicated bereavement or grief, although the same behavioral symptoms may be present. Reactions to a specific loss, such as death of spouse, family member, or friend, or declining physical functioning and inability to perform activities of daily living, are frequently characterized by feelings of depression, weight loss, poor appetite, and insomnia. However, preoccupation with worthlessness, prolonged and marked functional impairment, and notable psychomotor retardation are uncommon.

In uncomplicated bereavement, guilt, when present, is mainly about things done or not done by the survivor. Thoughts of death are usually limited to thinking one would be better off dead or should have died with the deceased. The onset of an uncomplicated bereavement reaction varies but usually occurs within one to three months of the loss. The duration of uncomplicated bereavement varies considerably, according to cultural and subcultural norms, but is self-limiting. If depressive symptoms continue beyond the culturally accepted period and the individual is unable to resume normal activities, bereavement may have given way to a major depression.

Depression and Other Conditions

Because it is not unusual to see depression coexist with dementia in older patients, it is important to determine whether the depression is associated with a reversible or irreversible dementia. Some depressions in old age may be also associated with confusion secondary to poor nutrition, medications, cancer, metabolic disorders such as hypothyroidism, and neurologic diseases like Alzheimer's disease, stroke, Parkinson's, or normal pressure hydrocephalus.

Alcoholism can either cause or result from depression. Effects of alcohol abuse, such as B12 deficiency, anemia, or electrolyte imbalance, may trigger depression. However, because many older people (and their family members) deny heavy use of alcohol, this issue requires careful questioning by the health care provider.

Almost any prescription and non-prescription drug can also produce depression. Some common drugs contributing to late-life depression include antihypertensive medications, cardiovascular medications, sedatives (barbiturates and tranquilizers), cold and allergy medications, antibiotics, and hormones.

Indicators of Depression

When elders are depressed, they often complain of physical problems rather than depression. They are more likely to lose weight and less likely to feel worthless or guilty than are younger people who are depressed. The elderly are also likely to present somatic complaints with no apparent physical basis. These are sometimes associated with the bowel, sleep disorders, and lack of appetite. Delusions, such as believing that a part of the body is rotting or that one is being punished for sins or personal inadequacies, may also be symptoms of depression. (See Handout/Overhead 2, Factors Associated with Depression, for more information.)

Working With Depressed Patients

In interviewing elders with possible symptoms of depression, it is important first to consider physical causes for symptoms through a careful history and examination, including use of alcohol and medications (both prescription and over-the-counter medicines). Administration of a brief mental status examination, such as the Folstein Mini-Mental State Exam, is helpful in differentiating dementia from depression. Take a careful history, including any family history of depression or "nervous breakdown," any previous history of depression, missed periods of work due to undiagnosed illness, and any prior treatment. A functional assessment should also be performed to determine the extent to which inability to perform everyday activities is due to physical factors.

Physical illness or disability often cause older people to report more somatic complaints that may be confused with depressive symptoms. When there is an acute deterioration of functioning without obvious physical causes, a diagnosis of depression should be considered. However, chronic disease may coexist or precipitate a depression that worsens functioning and causes significant decline in a patient's quality of life.

When dealing with elders who complain only of physical symptoms without physical signs, inquire sympathetically about their life situation as well as length of symptomatology and any events or stressors in their lives. Many older people may not volunteer somatic delusions for fear that they will be considered "crazy." In the absence of a physical cause, tactful but pointed questions on their beliefs about what is wrong with them physically may be useful in eliciting information in diagnosis. Standardized screening instruments, such as the Geriatric Depression Scale, may also be useful.

Also evaluate patients who exhibit possible symptoms of depression for suicidal risk. The highest rates of suicide occur among elderly males. Three questions are useful in assessing risk for suicide:

1. Have you ever thought of committing suicide?
2. Have you thought about how you would do it?
3. Have you ever tried?

An affirmative answer to all three indicates high risk. A positive answer to the first two indicates probable risk. A positive response to the first question indicates possible risk.

When an older person has been diagnosed as depressed, it is important for that person to be reassured and supported. Underlying physical causes should be treated. If medications are precipitating the depression, these should be withdrawn and substitutions made if necessary. Psychotherapy, social supports, and antidepressants may be used. If antidepressants are prescribed, their risks and benefits should be carefully weighed, along with possible drug interactions and drug effects in elderly patients.

SECTION 3 CASE STUDY/DISCUSSION QUESTIONS

Charles Baker is a 75–year–old retired tool and die maker brought to the practice by his daughter, who is worried that he may be "senile" and may need to be in a nursing home. Since his wife of 40 years died last year, he has lived alone. His daughter says he "hasn't been looking after himself, sometimes doesn't bathe, and is losing weight." She reports that he is forgetful, doesn't seem to concentrate and has given up his favorite activities—watching sports on TV and working in his garden. He has "lost interest" in his friends, children and grandchildren.

Mr. Baker is an unshaven, thin man whose somewhat dirty and rumpled suit hangs loosely on his body. His speech is very slow and he sits slumped in the chair. He says there is nothing wrong with him except feeling tired from the "pain in his stomach," constipation, and not being able to sleep. He would like a prescription for some sleeping pills.

Mr. Baker has been receiving Digoxin for congestive heart failure for the past five years and says he takes no other medication except over-the-counter preparations—laxatives and an antihistamine for sinusitis. He has no history of stroke or other major illness. Upon questioning about his stomach pains, he points to his abdomen. He has had no rectal bleeding. He identifies himself as a teetotaler "who hasn't touched a drop for 55 years...except on holidays, of course."

A physical examination reveals no major physical findings, and examination of the abdomen reveals no physical signs. Administration of the Folstein Mini-Mental Status Exam indicates that, while he asks to have questions repeated and does not seem to concentrate on the task, there are no signs of significant memory loss.

His score on the Geriatric Depression Scale is 10. He indicates that he has not thought of suicide, although he misses his wife and sometimes wishes he had died first.

1. How would you explain Mr. Baker's symptoms, and what evidence supports your diagnosis? Is he suffering from a major depression? What other medical conditions could be causing his symptoms?

2. Could any prescription drugs or over-the-counter drugs he is taking contribute to his depression? What drugs or therapies affect or mimic his condition?

3. What information would you want about his beliefs about his stomach pains?

4. What additional information would you want about his functional status, nutritional status, and current habits?

5. What additional information would you want about his current life situation, social activities, and bereavement?

SECTION 4 SUGGESTED ANSWERS

1. *How would you explain Mr. Baker's symptoms, and what evidence supports your diagnosis? Is he suffering from a major depression? What other medical conditions could be causing his symptoms?*

   Although Mr. Baker denies feeling depressed, he presents at least seven symptoms of depression. His behavior, as reported by his daughter, indicates that he is not taking care of himself, is sometimes *forgetful*, is *unable to concentrate*, is *losing weight*, and has *lost interest in his usual activities*, friends, children, and grandchildren. He has apparently *lost weight*, as his clothes are hanging loosely. His *slow speech* suggests *psychomotor retardation*, as does his slumped posture. He complains of *feeling tired* due to stomach pain and is *unable to sleep*.

   His psychomotor retardation and the persistence of his symptoms suggest that normal grief over the death of his wife may be complicated by a major depression. His score of 10 on the Geriatric Depression Scale strongly suggests depression.

   Depression in later life is often misdiagnosed as an irreversible organic disorder and perceived as "senility" by relatives or friends. Mr. Baker's mental status exam indicates no sign of organicity. Although memory loss and changes in attention span and concentration could be signs of an organic mental disorder, the onset of his symptoms occurred after his wife's death and represent a change in behavior.

   It is unlikely that Mr. Baker suffers from dysthymia (depressive neurosis). Dysthymia differs from major depression in that it is a chronic mood disturbance for at least two years. Symptoms are like those for major depression, except there are no delusions or hallucinations, and there is usually no clear period of onset.

   The careful clinician will want to evaluate the patient to rule out physical illnesses that may appear to be major depression. Those most often mistaken for depression include:

   - *Neurologic diseases*—Parkinson's, normal pressure hydrocephalus, Alzheimer's disease or other dementia, stroke
   - *Cancer*—for example, of the brain, bronchus, pancreas
   - *Metabolic/endocrine*—for example, hypothyroidism, B12 deficiency, anemia, hypercalcemia, electrolyte imbalance, adrenal insufficiency
   - *Chronic painful illness*
   - *Alcoholism*

2. *Could any prescription drugs or over-the-counter drugs he is taking contribute to his depression? What drugs or therapies affect or mimic his condition?*

   In an elderly patient, any medication may contribute to or cause depression. Although Mr. Baker has been taking Digoxin for the past five years, it may contribute to his present

depression. Approximately 20 percent of elders develop side effects or impairments from Digoxin, one sign of which may be depression.

Mr. Baker also indicates that he takes over-the-counter medications. A careful history of the OTCs he is using and the frequency with which he takes them is needed to evaluate their role in his depression, as well as any drug interactions. For example, antihistamines, non-prescription "cold" remedies, and OTC sleeping preparations all have anticholinergic effects and may produce dry mouth, constipation, difficulty in urinating and a variety of central nervous system side effects, especially when taken in combination. Anticholinergic drugs are not appropriate for patients with congestive heart failure, for whom diuretics may be required.

Laxatives, which Mr. Baker may be taking to counteract the anticholinergic effect of the antihistamines, may be inappropriate, as their toxicities range from aggravating fluid and electrolyte imbalance to direct toxicity and drug interactions.

Mr. Baker says he is a teetotaler except on holidays. More information about the amount and frequency with which he drinks would help determine whether he is using alcohol to self-medicate depressive symptoms or whether his drinking is causing depression.

3. *What information would you want about his beliefs about his stomach pains?*

Depressed elders often present with somatic complaints that confuse the diagnosis. Because they were raised in an era when admitting depression was often seen as weakness or lack of moral strength, many of today's older patients hesitate or deny feelings of depression. They may complain of physical problems rather than depression. These might include somatic complaints with no apparent physical basis, sometimes associated with the bowel, weight loss, sleep disorders, and lack of appetite.

Mr. Baker complains about pains in his stomach and constipation, but there are no physical findings. You would want to obtain additional information about Mr. Baker's beliefs about his constipation and "stomach pains." How often does he have a bowel movement? Does he believe that he must have a bowel movement at a certain time each day as a sign of health? When and how often do his stomach pains occur? What do they feel like to him? Does he have delusions about his stomach or bowel, such as believing that a part of his body is rotting or that the pains are retribution for personal inadequacies? Is he self-medicating with laxatives to get "something bad" out?

4. *What additional information would you want about his functional status, nutritional status, and current habits?*

You should assess Mr. Baker's ability to perform self-care activities of daily living—bathing, dressing, feeding, ambulating, toileting, continence, transferring—to determine whether this is a factor in his psychomotor retardation, rumpled and poorly groomed appearance, and the report from his daughter that he does not bathe often.

Many elders who live alone may be unable to perform one or more of these activities but fear that if they ask for help, they will lose their independence or be placed in a nursing home.

It is more likely, however, that because Mr. Baker is ambulatory, he may have difficulty in instrumental activities of daily living. These activities usually include money management, food preparation, housekeeping, shopping, ability to use a telephone, and capacity to arrange transportation. Many older men never developed skills in cooking, shopping, or housekeeping. If Mr. Baker is one of these, his weight loss and sloppy appearance may be due in part to lack of knowledge. You should learn whether his wife had always performed these tasks, find out who performs these tasks, now and ascertain his ability to do them for himself.

Mr. Baker no longer works in his garden, according to his daughter. Does he have a physical problem, causing difficulty in bending or kneeling that would keep him from doing such work?

Vision and hearing problems may precipitate or increase depression. A careful visual examination might reveal reasons that Mr. Baker no longer watches television or pays attention to his shaving and clothing. Similarly, a hearing evaluation would be helpful in determining whether his lack of interest in friends, family, and television is due to difficulty in hearing. Even mild deafness can produce feelings of suspicion and social isolation, resulting in withdrawal from contact with others.

Poor diet can be a feature of depression. You should therefore obtain information about Mr. Baker's nutritional status. What was his normal weight? Present weight? When did he notice he was losing weight? How is his appetite? How much and what does he eat? How much fluid does he drink? How many meals a day? Where does he usually eat—at home, at a restaurant, elsewhere? An inadequate diet or one primarily comprised of off-the-shelf refined and processed foods may increase constipation and have inadequate vitamin content. Similarly, lack of fluid intake may cause constipation, dehydration, and lessen the body's ability to eliminate waste.

5. *What additional information would you want about his current life situation, social activities and bereavement?*

Many elderly people experience uncomplicated bereavement, characterized by feelings of depression, weight loss, poor appetite, and insomnia after the death of a spouse. Often the survivor glorifies the dead spouse. For example, battered wives or husbands who have had unsatisfactory relationships often idealize the dead partner. The bereaved spouse may feel that family members or friends are interfering with the image of the dead person, trying to come between them, and thus retreat from contact with family and friends. This is most likely to happen if the survivor denies the loss or is out of contact with reality. Family members in turn may withdraw their support because they do not understand.

After bereavement, men are at higher risk of suicide than are women, and their risk of suicide increases with age. Suicide seems to be highest among those whose spouse dies as a result of suicide or long chronic illness. Suicide danger signs include denial of bereavement, inability to come to terms with grief, worsening symptoms over time, lack of social supports, and pre-existing physical illness.

Mr. Baker's depressive symptoms have persisted since his wife died one year ago. Since that time, he has apparently changed. He has allegedly lost interest in normal activities, his attention span is shorter, his memory poorer, he is insomniac, and he weighs less. In uncomplicated bereavement, prolonged and marked functional impairment and notable psychomotor retardation are uncommon. Moreover, the persistence of his symptoms suggests that his depression is not self-limiting.

Seek information about Mr. Baker's relationship with his wife. What was she like? What did they enjoy doing most together? Least? What sorts of arguments did they have, and how did they solve them? How did she get along with the rest of the family? With his friends? How was her health? What was the cause of death? If there is an indication that he is denying her loss and his view of her is glorified, have relationships with his friends or children changed since her death? How have they changed?

It is important to explain tactfully to Mr. Baker and his daughter that glorifying one's spouse may be a reaction to bereavement but that Mr. Baker needs the support of his family and friends at this time. If he is inactive and socially isolated, encourage him to involve himself in enjoyable activities of some sort.

You should also evaluate suicide risk. About two-thirds of successful suicides are clinically depressed, as depressed people often believe that life is hopeless and they are a burden to others. Does he wish that he had died instead of his wife or that he cannot go on without her? Does he believe he is a burden to his family or friends? How often does he think of death or is preoccupied with thoughts of death? Has he thought of suicide?

Contrary to popular belief, it is not dangerous to ask depressed patients about suicidal intent. Although people are often horrified by their suicidal thoughts, they are usually relieved when their health care provider discusses suicide. Such open discussion indicates an understanding of how wretched depressed people feel. Potentially suicidal elders need support, and the belief that one is unsupported increases the feeling of abandonment.

6. What treatment options might you consider?

Many elders respond well to antidepressants. Provisional data indicate that, compared to tricyclic antidepressants, fluoxetine is associated with fewer anticholinergic, cardiovascular, and CNS adverse events; and its efficacy is similar to that of other antidepressants. Amitriptyline, trazodone and other drugs with anticholinergic properties may impair aspects of memory. MAO inhibitors hardly influence cognitive performance but may require more careful monitoring than the selective serotonin reuptake inhibitors such as fluoxetine. As with any psychotropic medication, careful monitoring of dosage is necessary to avoid drug toxicity. Monitoring is especially important among older people

for two reasons: (1) different absorption rates among elders; and (2) drug interactions due to polypharmacy. It is also important to stress adherence to a psychotropic medication regimen.

Although many of older people today were socialized in an era when psychotherapy was not an acceptable option, a brief period of counseling, alone or in combination with medication, might be considered. Both individual and family therapy have been shown to be effective with older patients.

Support groups, such as a bereavement group, are also useful treatments. Not only do they relieve isolation but they provide a supportive atmosphere in which to discuss losses with others who have had similar experiences.

SECTION 5 SUGGESTED READING

1. Baker FM. An overview of depression in the elderly: A U.S. perspective. *Journal of the National Medical Association*. 1996; 88(3):178–184.
   Reviews existing data on the prevalence of depressive illness in different elderly U.S. populations, presents three cases of depression in the elderly; addresses the outcome of depressive disorder, and presents specific considerations for psychopharmacologic and psychotherapeutic treatment of late-life depression.

2. Brock CD, Simpson WM. Dementia, depression, or grief? The differential diagnosis. *Geriatrics*. 1990;45(10):37–43.
   This review offers a primary care perspective on the distinguishing features of depression, dementia, and grief. It discusses antidepressant medications most used with elders.

3. Van Ojen R, Hooijer C, Bezemer D et al. Late life depressive disorder in the community: The relationship between MMSE score and depression in subjects with and without psychiatric history. *British Journal of Psychiatry*. 1995;155(3):311–315, 319.
   Compares depressed elders with and without prior histories of psychiatric illness and concludes that the combination of cognitive impairment and first episode depression among elders may indicate cognitive deterioration. Depression itself may not be associated with cognitive impairment.

4. Rovner BW, Folstein MF. Mini-mental state exam in clinical practice. *Hospital Practice*. 1990 (Jan 30).
   Contains a short, easily administered, widely used, and validated test of cognition useful to assess the probability of dementia in a variety of settings.

5. Small GW. Recognition and treatment of depression in the elderly. *Journal of Clinical Psychiatry*. 1991;52 Suppl:11–22
   Reviews ways to recognize depression in elderly patients. Provides a practical, systematic approach to diagnostic and treatment decision making.

6. Sheikh JI, Yeasavage JA. Geriatric Depression Scale: Recent evidence and development of a shorter version. *Clinical Gerontology*. 1986;5:165–172.
   Presents the Geriatric Depression Scale and discusses the development of a shorter version than the original.

7. Yeasavage JA, Brink TL, Rose TL, et al. Development and validation of a geriatric depression rating scale: A preliminary report. *Journal of Psychological Research*. 1983:17;27.
   Describes the development of the Yeasavage Geriatric Depression Scale, a useful and validated scale for clinical practice.

SECTION 6 AUDIO-VISUAL RESOURCES

1. **Golden years, Golden Opportunities. (Video, 15 minutes)** This documentary is designed to be used as a basis for group discussion on mental health. It explores changes associated with aging; the relationship of stress, anxiety and depression to changes; and benefits of psychological services. The package includes facilitator's guide, a resource guide, and brochures.

   Contact: American Psychological Association, 1200 17th Street NW, Washington, DC.
   Phone: 202-336-5500. (Purchase $15; no rentals).

2. **Depression and the Elderly. (Video, 25 minutes)** This training film, produced by Fairview Audio-visuals, discusses prevalence and symptoms of depression in the elderly and demonstrates interventions.

   Contact: Terra Nova Films, 9848 S. Winchester Avenue, Chicago, IL 60643.
   Phone: 312-881-8491. (Rental $55; purchase $265).

3. **Despair. (Video, 56 minutes)** Although not confined to the elderly, this is the first full-length documentary to explore depression from multi-ethnic perspectives. With interviews and personal descriptions from social workers, psychiatrists, and religious leaders, this video won first place, Media award, National Council on Family Relations, 1995.

   Contact: Filmmakers Library, 124 East 40th Street, New York, NY 10016.
   Phone: 212-808-4980. (Purchase $325; classroom rental $125).

4. **Suicide and Abuse: The Vulnerable Elderly. (Video, 120 minutes)** One of a series of video conferences produced by the Virginia Geriatric Education Center. Because of the tape's length, instructors may wish to choose selected portions for group use.

   Contact: Terra Nova Films, 9848 S. Winchester Avenue, Chicago, IL 60643.
   Phone: 312-881-8491. (Purchase $149; no rentals or previews).

5. **Seniors' Esteem Issues. (Video, 30 minutes)** Presents information on self-esteem issues of the elderly and ways in which they may restructure their lives to cope with retirement, decreased energy, and physical impairments. With commentary by psychologist H. Stephen Glenn, this video is useful for health professionals in counseling elders and their families and for elders themselves.

   Contact: Filmakers Library, 124 East 40th Street, New York, NY 10016.
   Phone: 212-808-4980. (Purchase $295; rental $55).

6. **Treating Depression in the Elderly. (Video, 120 minutes)** One of a series of video conferences produced by the Virginia Geriatric Education Center. Because of the tape's length, instructors may wish to choose selected portions for group use. (Substantial discounts are available from the distributor if more than one video conference tape is purchased.)

   Contact: Terra Nova Films, 9848 S. Winchester Avenue, Chicago, IL 60643.
   Phone: 312-881-8491. (Purchase $149; no rentals or previews).

CTION 7 SUGGESTED ACTIVITIES

1. Break into groups of two. Let one person in each group be the health care provider and the other a depressed older patient. Role-play your response to the patient who:

    - Has recently lost a spouse
    - Has at least five symptoms of depression but denies feeling depressed
    - Thinks his or her family does not understand what losing a wonderful (glorified) mate can be like and has withdrawn from them
    - Has suicidal ideas and a chronic medical condition
    - Has been successfully treated for depression by the health care provider

Here are some trigger openers for patients:

Role-play 1: I've been having a lot of headaches in the six months since my husband died. The last doctor I saw said she couldn't find anything wrong.

Role-play 2: I wonder if I need a tonic. I'm not hungry—nothing much tastes good—and I can't get to sleep. I'm forgetting things, and I feel jumpy all the time. I just don't seem to enjoy things much any more.

Role-play 3: My husband was a hard man, but he did everything for me and the children. The children seem to think I'm better off without him. I can't stand the way they talk about his temper—it wasn't so bad—so I stopped seeing them.

Role-play 4: With bad arthritis, I can't do what I used to. I'd be better off dead.

Role-play 5: I didn't believe you when you said I'd get better, but I feel good. I've been volunteering as a foster grandparent. I almost feel like a kid myself!

2. Write a few paragraphs on your feelings about and experiences with depression and grief in old age. Think about how these feelings and experiences may affect you in working with older adults. What strengths might you offer in helping a depressed older person?

SECTION 8 HANDOUTS/OVERHEADS (ATTACHED)

DSM-IV SYMPTOMS OF MAJOR DEPRESSION

(At *least five* symptoms for at least two weeks, and *change* from usual functioning.)

- **Depressed or sad mood**
- **Decreased interest in sex**
- **Loss of interest/pleasure in activities**
- **Poor appetite or notable weight loss, or increased appetite/notable weight gain**
- **Loss of energy or fatigue**
- **Psychomotor agitation or retardation**
- **Insomnia or hypersomnia**
- **Diminished ability to think or concentrate**
- **Forgetfulness**
- **Feelings of self-reproach, worthlessness, or inappropriate guilt**
- **Recurrent thoughts of death, suicidal ideas**

Source: Adapted from *Diagnostic and Statistical Manual of Mental Disorders, Fourth edition.* Washington, DC: American Psychiatric Association; 1995.

HANDOUT/OVERHEAD 1

FACTORS ASSOCIATED WITH DEPRESSION

- Low socio-economic status/poverty
- Female
- Widowhood
- Frequent visits to health provider
- Lower functional status
- Poor self-reported health
- Chronic medical illness/pain

HANDOUT/OVERHEAD 2

DRUGS CONTRIBUTING TO LATE-LIFE DEPRESSION

- Antihypertensive medications
- Cardiovascular medications
- Sedatives (barbiturates and tranquilizers)
- Cold and allergy medications
- Antibiotics
- Hormones
- Suspect ANY prescription or OTC drug

HANDOUT/OVERHEAD 3

GERIATRIC DEPRESSION SCALE (SHORT FORM)

Choose the best answer to describe how you felt over the past week.

1. Are you basically satisfied with your life?	**Yes/No**
2. Have you dropped many of your activities and interests?	**Yes/No**
3. Do you feel that your life is empty?	**Yes/No**
4. Do you often get bored?	**Yes/No**
5. Are you in good spirits most of the time?	**Yes/No**
6. Are you afraid that something bad is going to happen to you?	**Yes/No**
7. Do you feel happy most of the time?	**Yes/No**
8. Do you often feel helpless?	**Yes/No**
9. Do you prefer to stay at home rather than go out and do new things?	**Yes/No**
10. Do you feel you have more problems with memory than most people?	**Yes/No**
11. Do you think it is wonderful to be alive now?	**Yes/No**
12. Do you feel pretty worthless the way you are now?	**Yes/No**
13. Do you feel full of energy?	**Yes/No**
14. Do you feel your situation is hopeless?	**Yes/No**
15. Do you think that most people are better off than you are?	**Yes/No**

Source: Sheikh JI, Yeasavage JA. Geriatric Depression Scale: Recent evidence and development of a shorter version. *Clinical Gerontology*. 1986;5:165-172.

HANDOUT/OVERHEAD 4

SCORING FOR THE GERIATRIC DEPRESSION SCALE

Score one point for each of these answers. Normal = 0-5. Above 5 suggests depression.

1. No

2. Yes

3. Yes

4. Yes

5. No

6. Yes

7. No

8. Yes

9. Yes

10. Yes

11. No

12. Yes

13. No

14. Yes

15. Yes

For additional information on administration and scoring, see: Sheikh JI, Yeasavage JA. Geriatric Depression Scale: Recent evidence and development of a shorter version. *Clinical Gerontology*. 1986;5:165–172.

Also see: Yeasavage JA, Brink TL, Rose TL, et al. Development and validation of a geriatric depression rating scale: A preliminary report. *Journal of Psychological Research*. 1983:17–27.

HANDOUT/OVERHEAD 5

SUBTOPIC 5

A COMMUNITY-ORIENTED PRIMARY CARE APPROACH TO ELDER HOMELESSNESS

TIMELINE (60 minutes)

5 min	Introduction/Ice Breaker
5 min	Review of Objectives/Format
5 min	Overview
30 min	Review of Case/Questions
10 min	Suggested Activity
5 min	Additional Questions and Answers

SECTION 1 LEARNING OBJECTIVES

Target Group: Physicians in training and in practice, nurse practitioners, nurse practitioner trainees, physician assistants, and physician assistant trainees.

By the end of the discussion, all participants should be able to:

1. Understand elder homelessness as a community public health issue.

2. Give a rationale for community involvement in planning and developing a public health promotion/disease control program, and describe at least one method of creating involvement.

3. Identify sources of information that may be applied to a community-based needs assessment, and give a rationale for using opinion data and survey data.

4. Discuss options for intervention with homeless elders, which could occur at various levels of social organization. Also discuss the need to choose options that the community accepts and that the community can implement.

SECTION 2 OVERVIEW

In community-oriented primary care (COPC), the community is defined as the patient. Clinical methods of diagnosing illness in a patient are similar in some respects to COPC.

The COPC model consists of three components:

1. A primary care practice or program
2. A defined population
3. A systematic process identifying and addressing priority health problems of the population

The COPC process has four steps:

1. Defining and characterizing the target population
2. Identifying priority health problems
3. Developing and implementing an intervention strategy
4. Monitoring the effect of program modifications

In COPC programs, efforts are made to obtain the broadest possible participation by the people for whom the services have been designed. This community involvement allows practitioners to gather quickly and inexpensively data about health problems of the target population. It also gives community members a sense of commitment to the project.

COPC and Homelessness

For many communities, a growing problem that can be assessed using COPC is homelessness and the needs of diverse homeless groups, such as the older homeless. A general definition of homelessness includes anyone whose primary nighttime residence is a public or private shelter, emergency lodging house or hotel, public park, or any other public space.

Where once the homeless population consisted of predominantly white, Skid Row males, it is now largely comprised of both males and females of all ages and nationalities. Today, the homeless and people most at risk of becoming homeless include the mentally ill, single parents with young children, the unemployed, low-wage earners, and the elderly or disabled living on fixed incomes.

It is impossible to state precisely either the number of homeless people in the U.S. or their ages, and estimates vary widely. But it is clear that the homeless population is large and growing. Although municipal and private organizations have established shelters for the homeless, they have not yet met the need for basic shelter for the growing number of people living on the streets. Many homeless elderly would prefer to live on the streets rather than in a shelter, as they fear abuse from other residents. They are known for not frequenting neighborhood service agencies.

Causes of Homelessness

One frequently cited factor in homelessness is the lack of affordable housing. Housing pressures on low-income elders have increased as low-rent market residential space and federally subsidized units have become scarce. Cutbacks in federal entitlement programs during the 1980s and early 1990s, such as decreases in federal funding for housing, have also contributed to homelessness. A third factor is the large-scale closing of state mental hospitals, which left many chronic patients without a place to live.

Focusing on the Elderly Homeless

As the number of homeless has grown, the need to pay attention to the special health care needs of various homeless subgroups has increased. The Institute of Medicine has placed a priority on determining the special health care needs of the elderly homeless. The elderly homeless, comprising an estimated 10 percent of the total homeless population, are heterogeneous. They include men and women who have lost their homes to gentrification, deinstitutionalized patients and alcoholics displaced by urban renewal.

The elderly homeless present a different profile from other age groups, as they are more likely to age prematurely due to chronic diseases associated with the hardships of life on the streets, loss of family and friends, low income potential, and lack of medical care.

SECTION 3 CASE STUDY/DISCUSSION QUESTIONS

You are a health care practitioner at an inner-city community health center. The surrounding neighborhood of approximately 30,000 people is in transition. Rental housing has been torn down to be replaced by more expensive condominiums and refurbished homes. The area is mixed racially, ethnically, and socio-economically, with one-third of the population living at or below the poverty level.

Although half the residents are under 34, there is also a large elderly and near-elderly population that has aged in place. A number of people are apparently living on the streets, but the precise number of homeless people in the area is unknown.

Your health center provides comprehensive primary care. About 15 percent of the patients are 65 and over and receive both Medicare and Medicaid.

Joanne Green[1], a 60–year–old woman, comes into your office complaining of a worsening cough that produces moderate amounts of yellow sputum. She appears older than her chronological age and she is pushing a grocery cart loaded with plastic bags. She tells you she has been homeless for six months. When her building was sold to a developer, she was evicted from the apartment where she had lived for 35 years. She has been unable to find another affordable apartment and is ineligible for elderly housing, which has a minimum age of 62.

Ms. Green is currently staying at a homeless shelter and was referred to the health center for her respiratory problems. She has been a heavy smoker for 40 years but denies alcohol use.

You perform a physical examination. Ms. Green has slight tachypnea (respiratory rate of 20 per minute). Examination of the chest reveals diminished breath sounds and low-pitched, end-expiratory wheezes. You note that she has a scaly, red-brown rash on the lower legs (stasis dermatitis) and varicose veins. You suspect acute bronchitis and exacerbated chronic obstructive pulmonary disease (COPD) and order a chest radiograph. You prescribe an antibiotic for the bronchitis, a beta-agonist inhaler for COPD, and topical treatment for the dermatitis. You arrange for tuberculin skin testing, influenza and Pneumovax vaccines.

You begin to wonder about the health care of other older homeless people in the neighborhood. You suspect that there are many elder homeless who do not use the shelter or the health center and thus are at even greater risk of illness than Ms. Green. You decide to investigate.

1. Do you and the health center have a role in addressing the issue of elder homelessness? What responsibility does the health center have to homeless elders in the area who do not use the health center?

2. Whom would you include in deciding how to identify the problem and establish an intervention to lessen illness among the homeless? How would you seek their input, and what role would you ask them to play?

3. How will you confirm your suspicion that both chronic and acute illness are problems among the elder homeless? From whom would you obtain this information? What are some methods of obtaining it?

4. What epidemiologic data might be useful in assessing the types of health care problems unique to an older homeless population? Who would you involve in the data collection and analysis?

5. What types of intervention programs could you try, and what would you like to learn to plan your intervention? What barriers might you face in trying to implement different interventions?

SECTION 4 SUGGESTED ANSWERS

1. *Do you and the health center have a role in addressing the issue of elder homelessness? What responsibility does the health center have to homeless elders in the area who do not use the health center?*

   The center has a definite role in addressing the issue of elder homelessness. To be an effective community-responsive health care provider, you and other members of the health center must have a responsibility to incorporate COPC into the health center.

   The homeless shelter has already referred at least one patient to the health center. This is an excellent opportunity for health center personnel to begin to lay the groundwork for an effective program in serving the elderly homeless.

   To incorporate COPC into your practice, you will need to:

- Decide to be responsible for the health problems of a specific population, in this case the homeless population in the area, whether or not they use the health center.
- Reach out to the identified unserved or underserved group.
- Include the community in study and solution to problems this population presents.
- Implement a program.
- Evaluate its impact.
- Establish a feedback loop to modify the program, based on the evaluation results.

2. *Whom would you include in deciding how to identify the problem and establish an intervention to lessen illness among the homeless? How would you seek their input, and what role would you ask them to play?*

   COPC stresses the involvement of the community in defining its health problems and in designing and implementing interventions. There are many reasons for this involvement, an important one being the short feedback loop.

   Rather than relying on published data about a comparable population, practitioners of COPC can quickly acquire and use data about the population to be served. Community involvement draws upon the information community members have about the possible causes and solutions for the problem that affects them. This is especially important for minority and underserved populations, as cultural sensitivity is an important element in community decision making.

   Community involvement has other benefits:

- Early commitment gives community members a sense of ownership of the project, which is critical if the intervention is to succeed.
- Community involvement advertises the project and increases the likelihood that people in the target area will be interested.

- Community members are more likely than program designers unfamiliar with the norms of the target area to identify and discourage ideas that are unlikely to succeed (for example, interventions incompatible with local cultural preferences.)
- Community involvement is an empowering process, contributing both to health promotion and to the ability to act upon the problem being addressed.

A program designed to address elder homelessness should include multiple groups in problem identification, intervention design, implementation, and evaluation. Key groups to include are:

- Supervisors of meal sites
- Social agency personnel
- Pharmacists
- Other health care providers
- Clergy
- Shelters for the homeless
- Long-term near-elderly, elderly and new, younger neighborhood residents
- Managers of liquor stores and supermarkets
- Police
- Local politicians
- Business people, including owners and managers who may resent the presence of a homeless population as bad for business
- Homeless people and low-income elders who may be at risk of homelessness should also be included.

3. *How will you confirm your suspicion that both chronic and acute illness are problems among the elder homeless? From whom would you obtain this information? What are some methods of obtaining it?*

The type of health problems Ms. Green presents are probably just the tip of the iceberg. Before launching a time-consuming intervention, you need to define the older homeless people in the neighborhood and their general health condition.

A first step will be to inquire about additional older homeless people served by any shelter in the neighborhood and their characteristics. How many are male? Female? What are their approximate ages? Frequency of alcohol use? General health problems suspected? Current health services provided, if any?

You will then want to gather opinion data from other sources in the community. Good sources of such opinions and information include the groups listed in the answer to Question 2.

It is very important to incorporate members from each of the community's racial and ethnic groups in your data gathering. Success will depend on whether the neighborhood

perceives elder homelessness as a public health problem and is willing to work to solve it. It is especially important to have information on what the community thinks about the scope and potential solutions of homelessness if the intervention is to be culturally sensitive.

Opinion data may be collected in various ways, including:

- Face-to-face interviews
- Telephone interviews
- Focus groups
- Simple written questionnaires placed in strategic spots, such as waiting rooms, or administered to specific groups, such as church or temple organizations, fraternal groups or lodges, and neighborhood associations

Mailed questionnaires may sensitize randomly selected or targeted residents to the problem but result in much lower response rates than those handed out at a meeting or administered personally. Motivation to complete a written questionnaire is greater when there is personal contact or explanation of its purpose.

4. *What epidemiologic data might be useful in assessing the types of health care problems unique to an older homeless population? Who would you involve in the data collection and analysis?*

Epidemiologic data include information already collected by others, as well as existing surveys of the neighborhood. Health statistics for the city or county may give some information on reportable diseases. Local police stations may be able to provide information on drug and alcohol use. More likely, however, information from studies of health problems of homeless elders in other areas will give a rough indication of the prevalence of different disorders.

Sources of demographic data include census information, town hall, city government, and local police departments; however, the homeless of all ages tend to be underreported in official statistics. Those not living in a shelter are most likely to be overlooked in any census, and preliminary research suggests that shelter users may differ from non-sheltered homeless.

A second step will be to review charts of elderly health center patients, but because you suspect that many homeless elders either deny their homelessness or do not come to the health center, the chart data will need to be reviewed carefully for biomedical markers. These include symptoms of:

- High rates of injury
- Tuberculosis and other infections
- Peripheral vascular disease
- Diabetes
- Lice

- Suspected alcoholism, such as liver and pancreatic disease
- Unexplained trauma
- Skin conditions such as stasis dermatitis
- Respiratory problems
- Malnutrition

Such findings, however, are unlikely to be complete enough to be useful in determining the extent of homelessness and its health effects or in detecting potential homelessness early. Systematic, well-designed surveys, although time-consuming and costly, give more reliable and useful data about the community you are serving. The advantages of surveys are:

- They provide more precise information about the extent of the problem.
- They may provide important information about the etiology of the problem.
- They can be used as baseline data to assess the effectiveness of an intervention.

The disadvantages of surveys include:

- Length of time required to develop the methodology, do the survey, and analyze the results
- Expenses for interviewers, consultants, and other personnel

Quantitative data may be supplemented by qualitative data. These may include descriptions by the homeless, elders at risk of being homeless, and others in the community; focus groups comprised of representatives from a wide variety of backgrounds; and structured and unstructured observations of the neighborhood.

Student interns or graduate students may assist in gathering and analyzing information, thereby reducing the cost. Volunteers from local churches and organizations are also a potential resource. Recruitment and training of neighborhood volunteers, while initially time-consuming, reduces the cost of data collection or analysis and, most importantly, invests local residents in the planning, implementation, and evaluation of the program.

5. *What types of intervention programs could you try, and what would you like to learn to plan your intervention? What barriers might you face in trying to implement different interventions?*

Key to developing a program to deal with health problems of the older homeless is an understanding of why there are older homeless people in the community. Familiarity with the literature on the causes of homelessness and the associated health problems is necessary, as is interviewing and surveying the homeless in the area.

The neighborhood in this case is undergoing gentrification. Are there sufficient low-cost rental units for the homeless? Are there barriers to their eligibility in the low-cost housing that exists? If so, what are the barriers? What are the perceptions held by the homeless in

the area about the health center? How aware are they that it exists? What barriers do they perceive to its use?

The chosen intervention will depend on the interests, abilities, and perspectives of the community groups and the health providers involved. Interventions may be targeted at one or more levels of social organization. For example, at the individual and health center level:

- Outreach health care workers can serve homeless elders in shelters, meal sites, a mobile van, or church hall.
- Publicity programs can encourage use of the neighborhood health center geriatric services by old and near-old homeless.

At the neighborhood and community level:

- Neighborhood and community-based programs can increase rehabilitation and job retraining options for homeless seniors who may be employable in the future.
- Community and neighborhood programs can provide additional shelters, meal sites, health, and mental health services, etc.
- Programs can prevent an increase in elder homelessness by providing assistance in avoiding eviction, help in relocation when eviction cannot be avoided, and emergency housing units.

At the broader society level:

- Social and political action can increase the affordable housing stock and reduce existing barriers to tenancy.
- Homelessness can be addressed through appropriate, accessible mental health support services for the chronically mentally ill.

Also important are the potential barriers one may face in attempting to intervene. For example, in a neighborhood that is becoming gentrified, new residents in more expensive housing may oppose programs designed to increase local housing for the homeless. Residents who have aged in place may feel threatened by the growing homeless population. Merchants may regard homeless in the area as a threat to business. Successful COPC must be developed in ways that effectively meet the needs of the people to be served and are acceptable to the community.

SECTION 5 SUGGESTED READING

1. In *Homelessness: Critical Issues for Policy and Practice*. Boston MA: Boston Foundation. 1987:48–52.
   Review of health care issues of the homeless, including high rates of injury, tuberculosis and other infections; peripheral vascular disease; diabetes; lice; and the need for national policy on homeless health.

2. Cohen CI, Ramirez M, Teresi J, et al. Predictors of becoming redomiciled among older homeless women. *Gerontologist*. 1997; 37(1):67–74.
   Those with available social support for material needs or potential emergencies was the strongest individual predictor of being housed within a two-year period. Concludes that what is most striking in finding housing for older homeless women is the lack of suitable housing alternatives.

3. Cohen CI, Teresi J, Holmes D, Roth E. Survival strategies of older homeless men. *Gerontologist.* 1988;28(1):58–65.
   Describes ways in which homeless men aged 50+ procure basic necessities, such as health care, money, food and shelter. Although physical health is key in meeting needs, few have medical care or are in mainstream programs for older adults.

4. DeMallie DA, North, CS, Smith EM. Psychiatric disorders among the homeless: A comparison of older and younger groups. *Gerontologist*. 1997; 37(1):61–66.
   Compares older and younger homeless men and women and concludes that older homeless were more likely than younger homeless to be white males with lower incomes, poorer health and a history of lifelong alcoholism. Suggests that older homeless need services in three areas: psychiatric, substance abuse and medical treatment.

5. Gelberg L, Linn LS, Mayer-Oakes SA. Differences in health status between older and younger homeless adults. *Journal of American Geriatric Society (38).* 1990:1220–1228.
   Describes health and functional problems of older homeless adults (aged 50–78), similarity to geriatric problems in general population and need for interdisciplinary team care emphasizing functional status, rehabilitation and sensory impairment.

6. Homelessness: New England and beyond. *New England Journal of Public Policy*. 1992;8(1) (special issue).
   Presents a variety of perspectives on causes, characteristics and problems of the homeless, as well as programs to alleviate homelessness.

7. Mullan F, Kalter HD. Population-based and community-oriented approaches to preventive health care. *American Journal of Preventive Medicine*. 1988;4(4):141–154.
   Introduction to theory and methods of COPC and its importance, and the methodology of clinical epidemiology as a technique to address specific problems.

8. Nutting P (ed.) *COPC: From Principle to Practice.* Washington, DC: Health Resources and Services Administration, U.S. Government Printing Office. 1987.

A series of articles on rationale and applications of COPC, including evaluation, group consensus techniques and so forth.

9. Nutting PA, Nagle J, Dudley T. Epidemiology and Practice Management: An Example of Community-Oriented Primary Care. *Family Medicine.* 23(3):218–226.
Describes components and process of COPC and applications of its principles within a family practice residency program in which all household members of active patients were the target population. Suggests that COPC, applicable in almost any practice setting, reveals numerous health problems that might otherwise be ignored.

SECTION 6 AUDIO-VISUAL RESOURCES

1. **Homeless Elderly: Closer From Home**. (**Video, 38 minutes**) Focuses on 64–year–old, retired widower and his first few days of homelessness following eviction from his old apartment. Useful opener to present information about services and help available to prevent elderly homelessness.

Contact: Terra Nova Films, 9848 S. Winchester Ave, Chicago, IL 60643.
Phone: 312-881-8491. (Rental $45; purchase $145).

2. **No Place to Go. (Video, 28 minutes)**. Examines situations among several homeless people who have been deinstitutionalized and/or mentally ill and the shortage of facilities available to provide services for them. Another opener to present information about services and help available to prevent elderly homelessness, winner of the Chris Award, Columbus International Film and Video Festival, 1994.

Contact: Filmakers Library, 124 East 40th Street, New York, NY 10016.
Phone 212-808-4980.

SECTION 7 SUGGESTED ACTIVITIES/ICE BREAKERS

1. Role-play a community meeting jointly called by the health center and the homeless shelter. Assign members of the group to play the following roles: health center staff; business person; shelter staff; priest, rabbi, or minister; local political leader; street person; and representative from the public health department.

   Have the group discuss whether health problems among elder homeless are important, how significant they are, what should be done, and what difficulties may be encountered.

2. Write two or three paragraphs on your feelings or experiences about homeless elders. Consider how these feelings or experiences may help or impede your efforts to deal with their health problems.

3. Ask each member of the group to describe an elderly person in two or three sentences. It can be anyone—a parent, grandparent, neighbor, patient, media figure, or even a hypothetical older person. Do not let any description go longer than two minutes. Have the group discuss the similarities and differences in descriptions.

   This is an excellent way to elicit the group's stereotypes. The group leader may wish to dispel "ageist" beliefs such as:

   - All older people are in poor health.
   - The majority of older people are in institutions.
   - Most older people are "senile."

4. Administer a questionnaire, such as Palmore's Facts on Aging (FAQ). This is a factual, true/false test that assesses knowledge of aging rather than attitudes. It is valid and reliable, and it can be used not only to stimulate discussion and allay stereotypes but to measure change in level of knowledge in students prior and after their exposure to information about the elderly.

   The attached questionnaire and scoring are adapted and updated from Palmore's 1977 FAQ to reflect current information on the elderly.

SECTION 8 HANDOUTS/OVERHEADS (ATTACHED)

THE THREE CRITICAL COMPONENTS OF A COPC PRACTICE

- **A primary care practice or program**
- **A defined population**
- **A systematic process identifying and addressing priority health problems of the population**

HANDOUT/OVERHEAD 1

THE FOUR STEPS OF THE COPC PROCESS

- **Defining and characterizing the target population**
- **Identifying priority health problems**
- **Developing and implementing an intervention strategy**
- **Monitoring the effect of program modifications**

Source: Nutting PA, Nagle J, Dudley T. Epidemiology and practice management: An example of community-oriented primary care. *Family Medicine 23(3)*:218-226. Reprinted with permission from the Society of Teachers of Family Medicine.

HANDOUT/OVERHEAD 2

THE FACTS ON AGING QUESTIONNAIRE (FAQ)

Mark each item "true" or "false."		**TRUE**	**FALSE**
1.	The majority of old people (past age 65) are senile (i.e., defective memory, disoriented or demented).		
2.	All five senses tend to decline in old age.		
3.	Most old people have no interest in, or capacity for, sexual relations.		
4.	Lung capacity tends to decline in old age.		
5.	The majority of old people feel miserable most of the time.		
6.	Physical strength tends to decline in old age.		
7.	At least one tenth of the aged are living in long-stay institutions (nursing homes, mental hospitals, homes for the aged, etc.).		
8.	Older drivers have fewer accidents per person than drivers under age 65.		
9.	Most older workers cannot work as effectively as younger workers.		
10.	Only about 9 percent of people 65 and older rate their health as poor.		
11.	Most older people are set in their ways and unable to change.		
12.	Old people usually take longer to learn something new.		
13.	It is almost impossible for most old people to learn new things.		
14.	The reaction time of most old people tends to be slower than reaction time of younger people.		
15.	In general, most old people are pretty much alike.		

16. The majority of old people are seldom bored.

17. The majority of old people are socially isolated and lonely.

18. Older workers have fewer accidents than younger workers.

19. Over 20 percent of the U.S. population is now age 65 or over.

20. Most medical practitioners tend to give low priority to the aged.

21. The majority of older people have incomes below the poverty level (as defined by the federal government).

22. The majority of old people are working or would like to have some kind of work to do (including housework and volunteer work).

23. Older people tend to become more religious as they age.

24. The majority of old people are seldom irritated or angry.

25. The health of older people (compared to that of younger people) in the year 2050 will probably be about the same as it is now.

Source: Adapted with permission from Palmore E. Facts on aging: A short quiz. *Gerontologist*. 1977;20:315-320. Copyright The Gerontological Society of America.

Note: An updated (1988) version of the FAQ is now available in Dr. Palmore's book Facts on Aging Quiz *(173 pages), from the Springer Publishing Company, 536 Broadway, New York, NY 10012 -395 (212-431-4370). This updated version can itself be easily updated with the latest available data*.

HANDOUT/OVERHEAD 3

SCORING FOR THE FAQ

Scoring is straightforward; items are arranged as alternate false/true items. Count one point for every correct answer, with a maximum score of 25. Suggested triggers for discussion of each item are given below; these may be expanded by the instructor.

1. **False**. Only an estimated 10 percent of those 65 and older in the community outlined in this case suffer from probable Alzheimer's disease (the leading cause of dementia).

2. **True**. Taste, vision, hearing, smell and touch tend to decline with aging, although at different rates in different individuals.

3. **False**. Interest and capacity for sexual relations continue in the absence of inhibiting disease.

4. **True**. Vital capacity may, however, be increased through exercise.

5. **False**. A wide variety of studies have shown that most older people do not feel miserable and indicate that they are happy or very happy with their lives. Depression, when it occurs, is often related to adverse life events (including poverty), physical illness or polypharmacy.

6. **True**. Physical strength tends to decline but may be increased through exercise. Recent studies of exercise training among the elderly have shown that elders can adapt to increased levels of exercise, with improved health benefits from both high- and low-intensity exercise. Exercise may improve their balance, coordination and strength.

7. **False**. About 5 percent of the elderly are in long-stay institutions at any given time -- a percentage that has remained relatively constant for the last 40 or 50 years. What has increased is the absolute number of old people living to very old ages. Types of institutions have also changed; use of mental hospitals for older people has declined, and the number of nursing homes has increased to accommodate the growing *number* (not percentage) of the elderly needing care.

8. **True**. The highest rate of accidents occurs among young males.

9. **False**. Older workers work as effectively as younger workers and have lower rates of absenteeism and work-related accidents.

10. **True**. Only 9.2 percent of the elderly rate their health as poor, according to the National Health Survey. Nearly 71 percent of old people living in this community rate their health as excellent, very good or good compared with other people their age.

11. **False**. A variety of research studies have shown that older people change their attitudes, beliefs and behavior.

12. **True**. Studies of cognition by psychologists suggest that the length of time required to learn new information declines with age, although this may be compensated for by using skills acquired through past experience.

13. **False**. Older people can learn new things. Motivation to learn appears to be an important factor in adult learning throughout the life course.

14. **True**.

15. **False**. Despite common belief, the elderly are the most diverse group in the population. They have widely varied experiences and skills.

16. **True**. Again, despite popular belief, the majority of elders engage in numerous satisfying activities.

17. **False**. Most elderly have a network of friends and relatives with whom they have regular contact. About 80 percent of the elderly have at least one child within an hour's drive, and about 80 percent of these people communicate with a child at least once a week.

18. **True**. The rate of accidents among younger workers is higher than among older workers.

19. **False**. The proportion of elderly (65+) in the U.S. population is not expected to reach 22 percent until 2030 according to U.S. Census estimates.

20. **True**. Despite increased interest in geriatric medicine, a wide variety of studies of both students and practitioners in the health care field indicate that ageism -- the belief that old people are somehow qualitatively different and less worthy of attention -- persists.

21. **False**. The majority of old people live above the poverty level. Most likely to be in poverty are elderly women, especially those living alone and members of a minority group.

22. **True**. Close to one in four older Americans continues to "work in retirement," that is, to be in paid employment up to two years after first receiving Social Security benefits; about one in six older Americans does some kind of volunteer work, and about four in five elderly do some housework or other work in the home.

23. **False**. Studies indicate that the greater religiosity observed among some older people is a reflection of life-long patterns, as they were socialized in an era when religion received more emphasis than among the young today. No tendency for increased religiosity associated with aging has been demonstrated.

24. **True**. Research indicates that personality does not drastically change with age, nor is there an increase in irritability or anger associated with the aging process.

25. **False**. New knowledge about health and disease prevention suggests that older adults will be healthier in 2050 than today. A growing body of evidence shows that changing certain health behaviors, even in old age, can benefit health and quality of life. Smoking cessation,

good nutrition and nutrition counseling can reduce the risk of disease among older adults. Increased physical activity is associated with a reduced incidence of coronary heart disease, hypertension, noninsulin-dependent diabetes, colon cancer, depression and anxiety, and osteoporotic fractures, and it may increase longevity.

Source: Adapted with permission from Palmore E. Facts on aging: A short quiz. *Gerontologist*. 1977;20:315-320. Copyright: The Gerontological Society of America.

Note: An updated (1988) version of the FAQ is now available in Dr. Palmore's book Facts on Aging Quiz *(173 pages), from the Springer Publishing Company, 536 Broadway, New York, NY 10012-395 (212-431-4370). This updated version can itself be easily updated with the latest available data.*